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CONSTRUCTIVE WORK IN THE COMMON SCHOOLS

The dominating influence in the world's thought at the present time is the doctrine of evolution. Beginning its conquest but a generation ago with what seemed to be chiefly the question of man's physical or corporeal relationships, it has penetrated little by little his intellectual and moral domains so completely that, to-day, there is not a phase of thought or a human activity that has not been stimulated and vivified by this greatest of all human conceptions. With the advent of this idea, chaos and chance went out and the reign of order and universal law was ushered in.

Between the all-embracing theory of the development of life and the theory upon which modern education is based there are many points of vital contact. Theories of instruction have been more profoundly influenced by this means than people are aware; it is acting as a revolutionizing force upon the whole profession of school-teaching.

Among the many interesting suggestions derived from the general theory of development, there is none which possesses a more fascinating interest to the student of childhood and education than the one which has given rise to the notion of the so-called culture-epochs in the history of the individual. This theory seeks to do for the psychic and intellectual life of the human being what the subject of embryology has done for the physical life, and the analogy is, indeed, a striking one.

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When von Baer showed that every organism in its earliest stage has the greatest number of characteristics in common with all other organisms in their earliest stages, and that at each later stage characteristics are developed which distinguish the embryo from those groups of embryos which it formerly resembled, he brought to the theory of evolution perhaps the strongest evidence that has ever been marshaled to its support. If all other testimony were to be obliterated, those facts which are furnished by embryology could have hardly any other explanation except that offered by the evolutionary account of creation.

If, now, after he enters upon the postnatal period of existence it be equally true that the individual repeats in himself the epochal stages of the race, including, in a general way, the individual and social aspects of each, then this order of development would indicate a law of growth which must affect, most profoundly, all methods of instruction.

In considering this interesting analogy, it is necessary to keep in mind what the facts are which have been gathered by a study of embryology. It must be remembered that the resemblances which appear between embryos of different species are very general; the details are unlike. The erroneous impression has existed that the higher animal, in the course of its development, successively typifies the adult stages of lower forms. Thus, for example, that the human embryo at a certain stage is like the adult worm; at another, and later period, like the adult fish, and so on. This is misleading and wrong, the truth being that the human embryo in an early stage of development has certain characteristics in common with the embryo of a fish, and, later, it acquires others which are common to all mammals. Von Baer, " the father of embryology," illustrates the point by relating how he bottled up several embryos in spirits and neglected to label them. In the course of time he forgot the names and, by observation, it could not be told whether they were embryonic lizards or frogs or mammals. The popular mistake concerning the facts of embryology is precisely similar in its crudity to that wide-spread misconception of Dar-

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winism, that man is a lineal descendant of the modern monkey.

The facts of embryology, however, when properly understood, do not of themselves prove or even assert anything concerning the development of the mind after birth. It would be the baldest assumption to maintain, because there are the prenatal periods when the body possesses characteristics common to many allied forms, near and remote, that, therefore, after birth there are low stages of mental development wherein the child exhibits characteristics common to primitive peoples. The utmost that can be urged is that between the two there exists an analogy. While the domain of embryology may lend suggestion, it is evident that the early stages of mental development remain to be studied by themselves.

Before dealing further with that interpretation of the early instincts of children which is at least the suggestion of the culture-epoch theory, it is well to clearly understand what is involved in the act of teaching, and what this implies in the choice of material. Teaching includes two considerations of equal and fundamental importance: one of these is the choice of subject-matter, together with its presentation. The value of the material chosen for presentation is determined mainly by two things—namely, its psychological relations to the pupil and its general educational bearings. From the psychological consideration the teacher adapts the matter to the instincts and capacities of childhood which are dependent mainly upon age. The educational worth depends upon the relative value of such and such knowledge and training in the ordinary affairs of that life which the child leads at present and which the teacher's judgment forecasts for the future.

The second consideration of paramount importance in true teaching is embodied in what may be called the reaction of the pupil as a result of the presentation. No presentation ever reaches consciousness without a reaction, however feeble it may be, which results in an immediate and inevitable mental construction that corresponds to the given phase of presentation. Everything that belongs to teaching is involved

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in the presentation and the reaction. Poor teaching may be due to a mistake in the choice of subject-matter or to a neglect to present it under all of its aspects, thereby obscuring some of its relations, or it may be due to a failure to afford all the needed opportunities and means for mental construction which the varied presentations demand. This notion of teaching is perfectly general and applies to all instruction regardless of the nature of subject-matter. It is the purpose here, however, to consider under the light of this conception what material seems best fitted to meet the demands of the primitive instincts of children. Without doubt this early period of life is the most perplexing one to the teacher. As age comes on and the demands of immediate existence begin to assert themselves in more definite form, the decision as to what shall be presented may be more easily made. But in the earlier years, when parents and friends and teachers, of necessity, must assume a good deal of responsibility for the child's needs in actual living, it is exceedingly difficult to decide just what the real necessities of life are to the child.

Upon one point at least there may be general agreement, namely, that certain so-called primitive instincts do actually exist, and that by taking intelligent advantage of them, definite educative presentation may be begun at a much earlier age than was once supposed. When the child enters this world and begins its conquest, being wholly without experience, its earliest demands are met thru the operation of those instincts which probably are its heritage from thousands of ancestors. The first and most persistent instinct is that which is expressed as a desire for food. For some time it seems to be the only instinct alive. Very soon others are aroused which cannot be defined in strictly utilitarian terms; for example, the attractions that are furnished by light and by sounds. In general, tho, so far as the instincts may be defined in terms of utility, they are all directed toward self-preservation, thru efforts to secure food and to provide means of defense and shelter. While these instincts have been and are probably common to all peoples in all times, they are not equally strong at the same time, and there is a tolerably

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well-defined order of development. In teaching it might be well to consider, also, what the effect of racial intelligence may be upon the presence and development of these instincts. It is not likely that they are quite the same in a child which is the product of an old civilization and the child which is the latest in a long series of generations of savages. What the effect of this varied ancestral influence may be is, and of course must remain, somewhat problematical.

It is at this stage in the education of children, when the primitive instincts seem to call for nourishment, that many teachers have assumed the interesting story of the race as revealed by embryology, as the setting and the background for their system of education. In working out this attractive analogy, tho, it is to be feared, they have done so under the misleading conception as to the embryological facts to which already reference has been made; that is, under the idea, for example, that in one stage of his development the embryo man is more or less like the adult fish; at a later stage like the adult mammal, etc. Whereas the truth is that while at a given point the two embryos have some characteristics in common, they are by no means identical. From this point backward the history of the two seems to converge toward a common ancestral type; but looking forward the lines are separated by infinite divergence. At all events, whatever may be the teacher's idea upon this point, the practical application growing out of the analogy consists in meeting the early instincts of childhood with presentations from the adult lives of primitive peoples. That is, as bearing upon the instinctive search for food the child is taught to hunt and fish; or, at least, the presentations are such that his reactions are stimulated in that direction. In meeting the demand for shelter, he is taught to build the wigwams of the Indian or the huts of other savages. Such work is done in the belief that as the early instincts are vague, so the means of satisfying them must be crude and simple, which is a proposition that no one can possibly deny.

Whatever truth there may be in the theory that the child repeats the racial history, there is certainly room to question

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whether, in this attempt at a practical application, teachers have not made an egregious mistake.

It is a fundamental error to suppose that while the child may be Indian-like in his instincts, he is therefore to be considered as an Indian or treated as one; just as it is a radical mistake to suppose that because the human being at a given point in development is fish-like, that therefore it is actually a fish. Those who hold essentially to this view of the matter undoubtedly fail to give due weight to another fact of which evolution makes a great deal, namely, the influence of environment. All have witnessed the yielding of an organism to some peculiar feature of its environment. Especially is this influence powerful upon the simple forms of life and upon the young of all living things. It seems to be, therefore, a proposition of the most elementary kind that in choosing material to satisfy the cravings of the early instincts, it should be taken from the immediate environment of the children. Even the Indians themselves were bound to recognize this fact. Those that lived on the treeless plains did not satisfy the demands for food, shelter, and clothing in the same way that the Indians did who lived in the mountains or in the forests. The tribal lines were often very closely coincident with these fundamental natural features. It is going against nature to deny to the children of the present the privilege of utilizing their environment in their day as the Indian freely used his surroundings in those ancient days. The Indian boy worked out his ideas of life unfretted, probably, by any teacher who tried to have him live the life of Robinson Crusoe, or that of a Chinese boy or of an Aryan, and somehow he managed to grow up to be at least a natural and a good Indian.

A failure to recognize the value of a child's surroundings in choosing material for study is equivalent to denying the validity of the doctrine of apperception, which asserts, in simple terms, that a child can learn only as the presentations call for use of its own experience. The presentations of primitive life, as the lessons are usually taught, ignore entirely too much the value of the immediate setting of the

children's lives. The lessons require that the present, both in time and space, shall disappear, and that there shall be substituted for it an evanescent shade of the past revealed by the flickering light of a story.

One may grant almost everything that anyone may claim regarding the demands of the primitive instincts of children and at the same time maintain that they shall be permitted to begin the solution of life's problems by using from the first, even in their plays, the material furnished by their environment. To fail in doing this is a serious mistake for several reasons. In the first place, there is no safe criterion by which one may determine just what phase of savage life shall be adopted as the pattern for the children. Why the American Indian or the Esquimau? Why not the Hottentot or Chinese or Japanese or Samoan? It is much simpler to suppose that the children will be better off by dealing in a natural way, each with his own conditions, than they will be if we laboriously unload upon them modes of life that are foreign to them. Following the same logic, there is no reason why we should not erect altars on the school grounds and teach the children how to sacrifice goats upon them in order to fan the dawning flame of religious instinct.

In the next place it would seem, as before mentioned, that the teacher should be able to count something upon the present stage of racial development, at least by the time the child enters school. The natural conditions which underlie our present life are so attractive, even to children, that their early tendency to utilize them seems almost instinctive. There is not a child of six years in the country to-day that does not have too much sense to try to settle the question of shelter by building a bark wigwam or by digging a hole in the ground. His question demands a different treatment. It is not, "What would I do if I were in the woods?" but, "How can I solve the problem here and now?" In casting about for materials the bark on the trees would be about the last thing he would think of. There is no civilized child today of six years who would not, if let alone to his own devices, aspire to a building that would throw the wigwam and the

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igloo into the shade. The teacher should use this aspiration carefully as the directive force in the education of children.

Teachers almost invariably fail to appreciate how difficult it is to create about the children the realities of environment that lies almost wholly outside of their experience. Miss Flora J. Cooke tells of an amusing incident which illustrates this point. After doing all in her power to environ the children with the natural surroundings of the forest dwellers, she approached them with the question of procuring food. They immediately replied that they would get that at the grocery. When she reminded them that they were in the forest remote from stores, they merely said they would have to keep on traveling until they reached one. Another teacher had a similar experience. She, with infinite care, had detailed the features of forest-life; when it was proposed, however, to go on a hunting expedition, to her intense disgust the children suggested that they should get revolvers and shoot rats. In another instance, a boy was trying to construct some kind of a primitive dwelling, using wooden pins to hold the pieces together. His patience was soon exhausted and he exclaimed: "we have nails; why not use them?" This is a question that no "make-believe" answer will satisfy.

Again, it may be urged that it is always desirable that the image shall be a faithful correspondence to the presentation that is made. But in such a study of primitive life, the apperceptive material is so exceedingly meager that it is a serious question as to the intrinsic value of the result. As teachers we do not realize how closely the children depend upon immediate contact thru their senses for their notions of things. This point is well illustrated by comparing the paintings which children make from a story that has been read to them with those which they make from nature direct. Even so common an object as a tree painted from a story is rarely as faithful a representation as the tree that is painted from the direct sense presentation.

Nor can it be fairly urged that the natural interest is any greater in the materials used by primitive peoples than it is in

those in use by our own high civilization. Children in playing at blocks invariably plan houses patterned after those which they see about them. They lay them out in rooms and in buildings of several stories, which they connect with staircases. They supply them with fireplaces and chimneys and other things that belong to civilized life. If they are at play in the yard or fields, in building, they invariably avail themselves of the bricks and lumber piles that may be in the vicinity. Even if they were to be placed in the woods with the Indians themselves it may be well believed that they would build wigwams under protest, and with many a longing for the bricks and mortar of civilization. This would be true, probably, even in play; but quite surely it would be so if the actual question of shelter had to be solved as a measure of self-preservation.

There can be no question but all difficulties in the correlation of studies may be traced to incorrectly applied psychological principles. In the recognition of the primitive instincts there can be no mistake; but in seeking to satisfy them thru the use of materials that belong to other peoples, to other times, and to foreign lands, the application is unquestionably wrong.

Four years ago, in an article entitled the "Correlation of science and history," which appeared in the EDUCATIONAL REVIEW,[1] the writer maintained that there is no chance for the correlation of science and history, if, in the former, the child is to live in the present, and in the latter he is to dwell in the past. Subsequent experience has furnished no reason for changing that opinion. There is absolutely nothing in the study of science which will meet the demand of the individual who wants to build a wigwam, it matters not whether that individual is an Indian or a Caucasian. Science says to the Indian, "Your days are numbered; you must take your place in the mournful and vanishing procession of the opossum and kangaroo." Turning to the child, Science lifts a warning finger and, pointing to their retreating footsteps, says, "Beware!" Science of to-day sternly re-

[1] 9 : 464.

fuses to join hands with any subject which sends its devotees thru the forest on quest of plunder and pillage. To all such, whether the adult savage or the civilized child, it must refuse aid and comfort. The savage instincts may be a reality in childhood's experience, but one must protest against any system of education which seeks to cultivate them. Granted that they may furnish the motive power for the earlier years, it should be the business of the teacher to use them as creative forces that shall produce results in terms of our own most enlightened living. The training which has made the red man and the Hottentot a savage will, if applied in the same way to a white child, produce the same deplorable results. History itself proves this to be true. The white children of pioneers who were stolen at an early age by the Indians and brought up among them proved to be as bloodthirsty and cruel as the most relentless barbarians—so little removed are we as yet from the savage condition. But it is claimed that children must pass thru these earlier stages and by easy transitions enter the successive planes of the higher life. It may be true; but be it remembered that every morsel of food that goes to feed the savage instincts sets the bones, fixes the muscles, determines the will, and foreshadows ideals, and makes the transitions all the more difficult. Those teachers in the earlier grades who encourage or even tolerate a species of brigandage among the pupils are laying broad and deep foundations of trouble for the teachers in the grades above them. The results of our teaching may be invoked in proof of this and also to support the proposition that in the majority of cases the supposed transitions into the higher life are never made. As in the embryological life, the changes are always to the more and more refined type, so the transitions in the early years of child life are supposed to be upward. It is due that some culture-epoch theorist should explain why it is that, in the beginning, within the limits of his knowledge, a child is uniformly kind and sensitive toward everything about him, as the years pass he becomes less considerate and more cruel, until he reaches that legal boundary of depredation set by the common law, and after that

sinks into a stolid and sullen indifference toward God's creatures. How is it to be explained that while in early years the songsters in the hedgerows are the delight of childhood, from the youth and adult they must skulk and hide for their lives; that to sing a note is to invite instant death? This is a fact so universal and patent that even the very crows themselves have thought it all out. If they were not facts, the marshes and prairies and woods would not be tenantless as a desert and silent as the grave. If the fancied transitions were really made, the latter years would not find men engaged in the butchery of trap-shooting and women wearing the mangled bodies of helpless animals on their bonnets. These results may be charged up directly to wrong teaching in school and in the home, that is founded upon the misapprehension of what the primitive instincts of childhood really call for. Let there be an end to the education that is founded upon the theory that the child is a savage. Let us now see what education will do when it rests upon the fact that, within the limits of his knowing, the child is kind; that so far as he can actually comprehend, he is sensitive and considerate.

It is generally agreed that in all the early years of life there must be a presentation of material immense in quantity and rich in variety. Our civilization furnishes such material in overwhelming amount, and if we make judicious use of it, the work of presentation becomes simplified a hundredfold. Think of what a marvelous educative influence might be wielded upon our children in those roaring centers of industry, our modern cities. Consider the inspiration that influences the soul of a boy that sees continually around him, in country and town, the rush and bustle, and feels the thrill and throb of this, our intense and magic life. These influences are the lodestone which draws our children from the schools before their time, and robs the rural district of its vigorous youth. Contrast the educative influences of such surroundings with those provided for by a system of education which lifts the child out of it all and transports him to a distant and lonely island. Think of the educative fellowship offered by

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his present conditions and compare it with that companionship which the island affords—a dog, a gun, a goat, and a gibbering, naked savage. Compare all the fullness of earth with the barrenness of that desolate spot and then try to give one solitary reason why any considerable part of a child's precious time and activity should be absorbed by the story of Robinson Crusoe.

The reaction of the pupil to the presentation of materials drawn from his environment is at once positive and definite. In all the constructions of his imagination, whether they be in wood, in clay, in metal, or in color, science is at once his chiefest help. It tells him how to make and lay his bricks; how to mix the mortar; where to put the windows; how to heat, light, and ventilate. It teaches him how to lay the timbers to secure the maximum support out of the minimum amount of material. It teaches him to secure his food in a humane way and how to prepare it for use; what to do with the refuse; how to prevent waste. It points the way to health, long life, and happiness thru all the laws of hygiene, and it calls a halt upon savage and useless destruction by making clear the economy of nature. In short, science stands ready and willing, and it is amply capable of taking the child as he finds himself placed in this age and of helping him to the uttermost to make the most out of his life. There is not the least difficulty in correlating science with any other subject that proposes to do the same.

Granting the truth of what has been maintained, the practical question still confronts the teacher as to how this wholesale presentation from the immediate environment may be brought about. In the first place it must be studied as educative subject-matter for first-hand use, and not as mere illustrations of what may be found in books or as a basis for the use of books. There should be prepared by the teacher for the use of the teacher and the pupils a series of handbooks, giving detailed outlines that will guide in a systematic study of the great sources and centers of our activity. Each center of present interest will appear under different aspects which correspond to the great

subjects of study. As an illustration, suppose the teacher and the pupil should attempt to work out the ideal of shelter as it shows itself at the present time in the construction of houses. This would require a varied presentation. One phase of such presentation would involve a study of the nature of building material and the consideration of the reasons why certain selections should be made. This would naturally fall under several heads, as follows:

1. Mineralogy: a study of the physical and chemical constitution of the various kinds of stones used in the walls; a similar study of the bricks, mortar, and cement, and of the different metals used in construction; a study of glass and glassmaking.

2. Botany: a study of the structure, growth, and properties of different kinds of wood; a selection of wood with reference to strength, lightness, color, grain, and cost.

3. Mechanics: a study of all materials with a view of relating, directly, form to function; how to shape the various beams of wood and iron, to secure the maximum of support from the minimum of material and cost; the adaptation of different materials and different forms of the same material—such as cast and wrought iron, steel, brass, lead, tin, zinc, and copper—to different uses.

4. Hygiene: a study of lighting material, natural and artificial, gas, oil, and electricity. Modes of heating and ventilation, means of rendering the walls non-conducting; plumbing and sewerage; the water supply.

The points thus partially outlined constitute the scientific aspects of the study, and at every step science will undertake to answer any question that the pupil may think to ask.

A second phase of presentation would develop the reasons controlling the choice for the location, the choice of material determined by climate, and an inquiry into the sources of the materials which would open up the whole question of distribution. This would further lead to an investigation of the subject of transportation, natural and artificial, and to a consideration of the natural features of the country. It would include the study of mines and mining; of forests, their dis-

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tribution; of the manufacture of lumber; the sources of fuel. This series of topics, when fully developed, would cover the geographic aspects of the presentation, and it would serve to edge the appetite for the entire subject of geography.

A third aspect of the presentation is the house as a whole. That is, the house from the standpoint of the need of that social union, the modern family. This would direct attention to the conveniences that might be provided to meet the wants of its different members. The arrangement and allotment of rooms, with due regard to the comfort and health of each; the kind and quality of furniture; the interior finish and outside architectural design; the decorations in wood, carvings and moldings; the wall hangings, paper, tapestries, and window draperies; the shades and colors adapted to the amount and quality of light and the purpose of the room; the *tout ensemble* of each room with respect to its furniture as a sleeping room, sitting room, dining room, kitchen, or parlor; the outlook of the entire house—its accessibility to roads and other modes of transportation, affording opportunity for a proper participation in the social life of the community and at the same time providing the isolation demanded by the family as an organism. This part of the study would constitute its social and historic aspect.

The presentations under the foregoing heads are in no wise complete without a judicious application of the subject of mathematics, including at least geometry and arithmetic. Under this head there should be a drawing of the entire plan to a scale; the calculation of the necessary quantity of material; the calculation of the support required in various parts of the building, to be used as a basis for determining the necessary quantity of material; the cost of raw material, of its manufacture and transportation; the cost of labor; the value of land improved compared with the unimproved; taxation and insurance.

It is scarcely necessary to point out how greatly such a line of study would be stimulated by the physical and social environment of the pupils. In the selection of materials everything within reach would challenge a test. In the mat-

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ter of decoration every color and every form in nature would feed the imagination. A study of nature for such a purpose would furnish the children a course in both nature study and art of which the school world has not yet dreamed. A study of the modern home, made intelligible by the constant constructive work of the pupils, would render luminous and in the highest degree helpful all in history that lies within the domain of social customs, architecture, and art.

From the considerations of utility, there are two remaining lines of human interest relating to food and clothing, which may be elaborated according to a similar plan. They, too, have their scientific, their geographic, and their social and historic aspects which may be presented by means of the immediate environment of the pupils. A course of study prepared substantially upon the lines here proposed would rationally include a consideration of every human industry, all public improvements, and everything that pertains to individual, social, and civil functions, both present and past.

To be sure, not all of the operations within the immediate environment of the children are, psychologically, equally near; but this phase of the problem patient observation and study on the part of the teacher will solve. Almost any human industry thus outlined and adapted to the different grades, according to the psychological indications and the constructive skill of the children, will furnish an instructive model for all other forms of human activity and reveal a wealth of subject-matter, the very existence of which, at this time, is almost unsuspected.

With this splendid array of material for presentation as the stimulus, the reaction on the part of the pupils will have an energy now almost unknown in the schools. The work of imagery as a result will call for all forms of expression and, under this, the demand for constructive work, so called, will be without limit. In developing the idea of shelter in accordance with the general outline which has been suggested, the work from the first grade to the eighth would form a most beautiful series. Not the series from the hut, the igloo, and the wigwam to the modern house, but one constructed in the

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main from similar materials and at each stage, the result embodying the child's notions of this particular phase of life in terms of his own environment. At the upper end of such a series of construction there is no reason why eighth-grade boys and girls should not be able to set forth their ideas in the form of a well-constructed and artistic house with the most modern improvements, which would meet at least the general demands of hygienic laws. In every step of its building, from the primary grade up, science, history, and art would be the most obedient and trustworthy servants. It would put a purpose and an ideal into manual training that, so far, no system has been able to provide.

One must not overlook the fact that upon this point he may be easily misunderstood. That there is a place for the myth and fable and the study of primitive life is beyond dispute. But the standpoint of the pupils and their line of approach should be changed. Instead of the elaborate outlines and provisions for the study of the materials of other days and other places with but casual references to the present environment, the plan should be reversed. Place the emphasis upon that which can be directly presented; let the real constructive work be upon it and the casual reference to that which can be represented only by symbols. This must not be construed as an attempt to belittle the study of primitive conditions; the wonderful interest of children in the stories of other days would alone forbid that. By means of these, the pupil constructs a picture of human development in an interesting perspective. But when the child is so placed that his constructive energies are expended upon the crude materials and appliances of primitive times, and when he is so conditioned that his imagination is fed from the low ideals which gauge and determine the result, his position is at the wrong end of that perspective.

Three things are here maintained: first, that the primitive instincts, whatever they are, should be stimulated by the direct presentation of our own higher ideals of life; second, that the gratification of whatever primitive instincts the child may have may be fully met thru his spontaneous selection of ma-

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terials in his present environment; and third, that in working out his crude and vague ideas he should be put, at once, into possession of the finest edged tools which the realization of his ideals may require. These points are urged in the belief that the boys of our day outrun the ideals of the wigwam and igloo before they shed their petticoats, and that they are possessed of more than stone-ax skill the day they enter school. In our course of study nothing must stand between the child and the immediate enjoyment, in his own way, of the rich heritage of our present civilization.

It is scarcely possible to overmagnify the beneficence of an education that seeks first to make the most out of the immediate things of life. Its results and its ideals are about us everywhere. The ability to use in the most intelligent and skillful way the materials of our environment is the necessary condition for the highest purposes and the most glorified ideals. One must have a profound respect for the education that proposes to give us clean cities and hygienic homes, and those who are laboring for that end must be accounted among earth's heroes, and in many cases listed with her martyrs. That brave scientist, who, following the wake of our army, went down into the reeking filth of pestilential Cuba and met death while trying to succor the ignorant and helpless, made as heroic sacrifice for the cause of humanity as did any gallant soldier who gave up his life on the slopes of San Juan. There need be no fear for the ideals of the child who grows up in vital contact with the plain industries of life that make for the welfare of individuals and the prosperity of the community. No boy or girl who lives in such surroundings and who enjoys the privilege of becoming actually identified with them ever idealizes the loafer or the tramp.

But while in education there can be nothing higher than that which provides for the immediate material welfare of life, an earnest protest must be entered that this by no means embodies the whole of the truth. There are primitive instincts in children more primary, more subtle, and farther-reaching than those that gratify themselves in terms of food, clothing, and shelter. There is that in the child which re-

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sponds to the shining pebble even tho never a roof were to cover his head. There is that in the soul of the man to which the cloud and the daisy speak, tho his life is without meat and his body without raiment. In his report upon the vacation schools, Superintendent Milliken says: "I am not bold enough to sit down and with scalpel and microscope seek to analyze and place the impressions made upon the character of the little fellow whom I found sitting alone upon a high bank, beneath the shadow of a great oak. He was looking across the valley at the fresh green fields on the plain fringed by the growth of timber beyond, over which the shadows of the summer clouds were chasing each other, emphasizing the beauty and freshness of the scene. I sat down beside him. He turned his face, made radiant with the joy of a new possession, and said, 'Is dis purty ting ours? Is dis all in de United States?' There is no story of ancient valor and sacrifice that will ever stir within that boy the patriotic instinct more deeply or nerve him more strongly to courageous, desperate action than will the memories of that landscape—all of which lies within the United States. It is absolutely fundamental that if our children are to love their country, they first must see it."

The teacher who fails to recognize the importance of those impressions of nature which, while associated with our material wants, yet in a measure seem independent of them, makes a fearful mistake. In childhood's years they are the sparkle and foam on the cup of joy. In after life their allurements seem like the beckonings of the Infinite, and thru his profoundest researches man merely follows them with sublimest faith.

In this practical age there is a tendency to sneer at the man of abstract science, so called, and at those who see visions. Let us beware. The abstract science of to-day will descend to-morrow and lift the burdens from the oppressed and heal the sick, and many times the vision has proved to be the forerunner of truth. Not alone is the one who places the vegetables upon our tables the practical man; but the poet, too, who embalms the daffodil in verse and the scientist who dis-

sects its delicate petals down to the ultimate cell—all are benefactors, all are participants in the mysterious glory of life.

One could almost wish that the name of school could be banished. It is the name and not the nature of our ministry that chains us down to tradition; that closes the eyes of the pupils, benumbs their senses, and befuddles the teacher in his thinking. The pupils should receive instruction in school as clean-cut, as direct, and as simple as they get it when knocking around the world outside of school.

Education is not the science of "roundaboutness" in teaching, but in its application it should point the shortest road to what we want in human character. Let it be remembered, however, that this cannot fully show itself in a finished material product; that behind the construction stands the constructor; within the building lives the builder; and that after the highest outward expression has been reached, we must realize with Whitman:

> I swear I see what is better than tell the best,
> It is always to leave the best untold.

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II

TAXATION OF COLLEGE PROPERTY

The constitutions of the several States usually declare that every member of society shall pay his just share toward the support of the government. It is affirmed that all property shall bear its proper proportion of taxation. The constitutions of the several States also make certain exemptions from taxation. These exemptions usually include public schoolhouses and apparatus, churches, public libraries, academies, colleges, and universities.

These constitutional provisions as to exemptions are commonly made good in the statutory law. This law is differently expressed in the statutes of the different States, but in general the law is the same. It exempts from taxation property used for collegiate and similar purposes. In Massachusetts a well-known statute[1] declares, " the personal property of literary, benevolent, charitable, and scientific institutions and temperance societies incorporated within this Commonwealth, and the real estate belonging to such institutions occupied by them or their officers for the purposes for which they were incorporated," are free from taxation. The Connecticut statute is more specific. It runs as follows, " Funds and estates which have been or may be granted to the President and Fellows of Yale College, Trinity College, or Wesleyan University, and by them respectively invested and held for the use of such institutions shall, with the income thereof, remain exempt from taxation, provided that neither of said corporations shall ever hold in this State real estate free from taxation affording an annual income of more than six thousand dollars." The New York statute is more akin to that of Massachusetts: " Every building erected for the use of a college," and used by it, and all stocks owned by literary and

[1] Supplements to the public statutes of Massachusetts, 1889–1895, chapter 465.

charitable institutions are free from taxation. The statutes of Ohio and of Illinois are similar.

The essential meaning of these laws, as interpreted by the courts, is that the property of a college necessarily used for collegiate purposes is not to be taxed. In property necessarily used for collegiate purposes are usually included (1) the ground requisite for the location of buildings and property for the securing of the fitting use of these buildings, (2) halls for the purposes of giving and hearing lectures and recitations, (3) laboratories and their apparatus, (4) libraries, including both buildings and books, (5) gymnasium and its apparatus, (6) astronomical observatories and their apparatus. Regarding the taxing of property of this character I am not aware as any question has arisen. Such property is so necessary for the maintenance of the college that without it the college could not be maintained.

The essential meaning of the statute on the other side, too, is in most States—with possible exceptions arising from specific legislation—that real property belonging to a college which is owned for the purpose of securing revenue is not exempted from taxation. Such property ordinarily includes buildings leased for commercial and similar purposes. It is well known that a few of the larger, older, and more conspicuous colleges have invested large amounts of their funds in real estate. Harvard owns large values in real property in Boston; Columbia, in New York; and Chicago University, in Chicago. In such cases the college corporation becomes a landlord and is, so far as I know, in every instance prepared to assent to a proper imposition of taxation, like any other landlord. To this general condition there are, of course, a few exceptions. One of these exceptions belongs to Harvard College. By a certain privilege granted in the Charter of 1650 Harvard College was exempted from all taxes on real estate not exceeding the value at that time of five hundred pounds per annum. Under this exemption an estate on Washington Street, Boston, now occupied by a book-selling and book-publishing house, is free from taxes. The Northwestern University of Illinois also enjoys a similar exemption

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upon certain of its holdings of valuable real estate in the city of Chicago.

But between property which a college must possess in order to be a college and to do college work and property which it does possess in order to raise a revenue may lie, and does lie, property which on the one hand is not absolutely necessary to the existence and maintenance of the college, but which yet does promote its maintenance and augment its efficiency as a place of education, and on the other hand, property which has no relation at all to the immediate promotion of the great purposes of the college and yet which does result in actually increasing the revenue of the college. Such property placed midway between property absolutely necessary for collegiate purposes and property of an income-bearing character includes such real estate as dormitories, club-houses occupied by the students, and dwelling houses occupied by the professors. At exactly this point falls the whole ictus of the whole question of the taxation of college property. The simple question is whether property of this sort should be taxed or should be exempted from taxation.

It is clear that dormitories are not necessary for the maintenance of certain colleges, for certain colleges do exist and are efficient without dormitories. Columbia University has no dormitories; likewise, the University of Michigan and the University of Minnesota, institutions enrolling some three thousand students each, are without dormitories. On the other hand, many colleges, and certainly most of the older colleges, have adopted the dormitory system of residence. To remove Holworthy or Thayer or Weld from Harvard, or Farnham or Durfee or Welsh from Yale, or old Nassau from Princeton would represent an elimination of what has proved to very many men the most valuable condition of their college course. To exclude the dormitory method from Vassar or from Wellesley or from Smith or from Bryn Mawr would probably result in the dissolution of the colleges themselves. Neither Poughkeepsie nor the town of Wellesley nor the city of Northampton nor the village of Bryn Mawr could offer the proper residences

for the students who are at present members of these institutions. On the other hand, altho the Western Reserve College for Women has a dormitory, yet this college could exist if this dormitory were not built. Radcliffe College in Cambridge has enjoyed prosperity without offering special homes to its students.

It is also to be said that the income from certain of these halls of residence amounts to a large annual revenue. The money thus derived is put into the college chest and is spent for purposes similar to those for which money derived from business blocks or from investments in bonds and stocks are used.

It may therefore be affirmed that in certain colleges the dormitory is as necessary to the carrying on of the college as is a hall of recitation. In other colleges it is not so necessary. In certain colleges the claim might worthily be made, upon the evidence presented on one side, that the dormitory is worthily conducive to the prosperity of the college. In the same colleges arguments might be presented showing that the dormitory is of slight value. The verdict in respect to the taxation of such property, on whatever ground, or of whatever content, would not be generally satisfactory.

The legal relation in which the houses belonging to the college corporation and occupied by college teachers stand is somewhat similar and somewhat dissimilar to that constituted by the dormitories of the students. The dwelling house owned by a college and occupied by a teacher is primarily used as a means of increasing the income of the college. The professor occupying it does not receive so large an annual stipend from the college as he would were he not occupying it. This dwelling house, therefore, stands on the basis of an income-bearing business block. It is also evident that in many cases, tho not in all, it is especially promotive of the welfare of the college for professors to occupy houses in close proximity to the college. A few professors in certain of our larger colleges situated in a metropolis may live a dozen or more miles from the halls of lectures and recitations, but in other instances such conditions are not possible. Certainly it

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would usually be well and advantageous for all the residences of college teachers to be near to the college halls. The worth of a teacher to a college is promoted by the intimacy of his association under all conditions with all college elements and relations.

It is therefore evident that the statute of exemptions touching college property as embodied in the non-necessary and yet income-producing real estate represents one of those laws which the different courts in different States, and the same court in the same State with different judges on the bench, might interpret differently.

Among the more famous cases decided by the Massachusetts court touching the taxation of college property is the case of the distinguished mathematician, Professor Benjamin Peirce, *versus* the inhabitants of Cambridge. This case was decided in January, 1849. It appears that the president and fellows of Harvard College built a dwelling house on land of the corporation within the college yard and leased the same to Professor Peirce, to be occupied by him and his family as a residence at a certain annual charge. The court held that this property thus occupied could not be exempt, altho in a later decision of the court upon a similar matter it was affirmed that if the house had been occupied by Professor Peirce without his paying rent it could have been exempted. A somewhat similar case was decided in favor of an institution of learning nineteen years after the case of Professor Peirce. This was a case of the trustees of Wesleyan Academy of Wilbraham, Mass., against the town of Wilbraham. It appears that the trustees of the academy desired that a farm and certain farming stock belonging to them and used for the support of the academy to be exempted from taxation. The decision was in favor of the exemption. The decision of the court was, "a farm and the farming stock owned by an institution incorporated within this commonwealth for the education of youth and by it worked solely to raise produce for the boarding house kept by the institution to supply board to the students at its actual cost is exempted." In another Massachusetts case, the Massachu-

setts General Hospital *versus* the inhabitants of Somerville, it was held by the court that the purposes for which the real estate is used represent the ground upon which exemption may be claimed.

The most recent and in certain ways the most important of all decisions is that rendered by the Supreme Court of Massachusetts in the case of Williams College and Williamstown. In this decision it is declared that:

> Lands with dwelling houses thereon owned by a college and occupied as residences by persons engaged solely in the instruction or government of the college or in the care of its property, under parol agreements whereby each is to receive as salary a stated sum monthly and the use of the estate while in the service of the college, for which use a certain sum is deducted from the amount of the salary, are not exempt from taxation under Pub. Sts. c. 11, Sec. 5, cl. 3, as amended by St. 1889, c. 465.

In Ohio, with a law quite similar to the Massachusetts law and that of other States, the courts have usually decreed that the place and the property used immediately and directly for educational purposes are exempt, but that property used for the support of education is not exempt. For instance, the property of Western Reserve University, including halls of recitation, libraries, laboratories, is free from taxation, but a piece of land which the University bought in the year 1890, lying near to but separated from the university campus, altho bought for the purpose of erecting a college building thereupon, could not be exempted. It was said by the officers of the law that, if a building, however small, were thereon erected and used for college purposes, the tract should be made free from taxation, but until the land was put to that specified purpose it must bear its share of the public burden. A similar view is held in certain States respecting the taxation of ecclesiastical property. The building used for purposes of worship and of instruction is free from taxes, but the parsonage or the place of residence of priest or minister is taxed.

A decision made in the Illinois courts in the case of the Northwestern University is similar. Property is not to be exempted which is owned by educational corporations which

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is not used itself directly in aid of educational purposes and which is held for profit merely, altho the profits are devoted to the purposes of education.

It is to be observed that the present movement toward the taxation of college property is a municipal movement. It has arisen in and from the towns or cities in which the colleges themselves are located. The demand would not have at all arisen from the States themselves. Cambridge, not Massachusetts, asks that the property of Harvard College be taxed. Williamstown, and not Massachusetts, asks that the property of Williams College be taxed. Somerville, and not Massachusetts, asks that the property of Tufts College be taxed. And New Haven, and not Connecticut, asks that the property of Yale College be taxed. Of course, several motives may arise in causing the assessors of a town to use their presumed right to tax college property. The motive to lessen the rate of taxation is usually one, and a worthy motive. The desire to make the amount of taxable property as large as possible in order to lessen the burden of each citizen is a laudable desire. Both in Cambridge, Williamstown, and Wellesley the real estate holdings of the colleges represent a large proportion of the taxable realty of those towns. But behind this motive, in certain college towns, lies as a motive a certain peculiar and interesting condition. It is the condition of antagonism or indifference. This condition is frequently found to exist between the college people and the town people. This condition is not a condition of the "town" *versus* the "gown," which thrusts itself forward in riots, and which has indeed emerged in conflicts of many sorts for a thousand years of academic history; but it is a condition simply of more or less marked antagonism and indifference. The antagonism, be it said, exists more on the part of the town, and the indifference more on the part of the college. This relation, or lack of relation, grows out of certain advantages possessed by the scholarly, cultured, and apparently well-to-do part of the community which are not possessed by those who may have no college association. This condition is a condition of

human nature. It cannot be altered except by altering human nature. Be it said, however, that this sentiment of antagonism exists only in a part of the non-collegiate community; and be it also said that this mood of indifference is not so strong as most people believe. For the interest of the college people in the town or city in which the college is located is an interest usually broad if not keen. I also believe that the antagonism that is sometimes rather rampant on the part of the community against the college, which is found in its midst, is not so violent as is frequently believed. For the advantages which a college can render to a community are of the greatest worth. The mere naming of them carries along an intimation of their value. The college usually furnishes to the community noble specimens of the art of the architect and of the landscape gardener. The best buildings and the most precious scenes of Cambridge and New Haven, of Amherst and of Williamstown, are the college buildings and the college grounds. The college also gives to the community museums, libraries, art galleries for the preservation or the exhibition of the great works of nature or of man. It is not also to be denied that the college adds to the resident body of the community a certain number of families of education and of culture whose presence in the community tends to elevate its standards of living and to ennoble its sentiments. Into the smaller town, too, the college brings from time to time great men, the seeing of whom and the hearing of whom represent a positive addition to the best forces of the community. It is further to be noted that the college offers to the community an example of the continuity of the highest life. In a new community such an example is of the greatest worth. The college, furthermore, extends the reputation of the town in which it is located. Who would have known of Hanover but for Dartmouth; or who of Brunswick but for Bowdoin; or who of Oberlin but for the college bearing its name? These instances, and many others that might be named, are proof of the worth of a college to the community.

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Townships and municipalities usually in advance of the location of a college recognize what a college may do for the community in which it is placed. If it is known that a college is to be founded in a certain general neighborhood, each town becomes a claimant. Portland, Yarmouth, and other places, as well as Brunswick, asked for the location of Bowdoin. Akron gave sixty thousand dollars in order to secure Buchtel College. Fairfield, Iowa, a small town, gave twenty-nine thousand dollars that Parsons College might there be placed. Fifty years ago Davenport gave fourteen hundred dollars in order that Iowa College might there be founded, altho afterward it was moved nearer the center of the State. Albion, Michigan, gave a liberal subscription thru its citizens for securing the college bearing that name in its village. Towns are known which have voted to give a site, building, and freedom from taxation for a term of years, in order to secure a shoe factory. Is a college better than a shoe factory?

The question of the taxation of college property is, in respect to the immediate financial gain to be secured from that taxation, primarily a question for the municipality in which the college is located. But the question in its other relations is a question which belongs to the people of the whole State. This question is a question which may be settled by the people of a State as represented in its legislature, and it may be at once and clearly settled. In case the people of a State do not wish to tax the property of their colleges, such as professors' houses and students' dormitories, they can at once make laws freeing this property from these imposts. In case the people of Massachusetts do not wish to tax the house occupied by the president of Harvard College and similar property, it is very easy for the General Court to free such property from taxation.

Into this general question of policy I desire so far forth to enter as to say five things:

1. The close interpretation of the statute of taxation as applied to literary and scientific institutions has not been the sentiment or practice of the various American courts.

2. The American people as a body has sustained such a

sentiment and has approved of such a practice. For the American people as a whole love their colleges and desire that these colleges shall be freed from many burdens which they themselves, as individuals, are willing to bear.

3. The ordinary American citizen cannot give much money to the direct support of the American college, but he can give somewhat to the support of the American college by the adoption of a generous policy respecting the freedom of these colleges from taxation.

4. The American college exists for the benefit of the American people. Therefore, the American people should not feel that any advantages offered to these colleges are to be used for selfish purposes or for narrow and limited aggrandizement.

5. The American college professor, who represents after all the best part of the American college, is paid a small income from a small treasury, and he is himself giving back to the community what is manifoldly more precious than the money he receives.

The burden of the freedom of collegiate property from taxation is felt, if felt at all, by the town in which the college is located. In a recent interview an officer of the city of Cambridge is reported to have said that when the college dormitories are assessed the high rate of taxation would be reduced. One can sympathize with the people of the smaller towns more than with the people of Cambridge, who do feel the burden of taxation resting more heavily upon themselves by reason of the college exemptions. But there is a method of relief from this burden which is perfectly consistent with the continuance of the college exemption. This method consists in allowing the people of the whole State to share the burden. In a word, let the college pay taxes on its property, such as professors' houses or students' dormitories, as well as upon commercial blocks. If one wish, let it pay a tax upon its entire property, including halls of recitation, laboratories, libraries, and museums. Let the treasury of the township or municipality receive its proper share of the increased revenue, which represents the larger share of the amount thus

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collected. Then let the treasurer of the State reimburse the college to the amount of the tax which the college has paid. This simply is spreading the burden resulting from freedom over the shoulders of the taxpayers of all Massachusetts rather than of Cambridge only; of all Connecticut rather than of New Haven only. For the last ten years this is the method which has been followed in the State of Maine. The law of that Commonwealth is worth quoting:

> Any college in this State authorized under its charter to confer the degree of Bachelor of Arts or of Bachelor of Science, and having real estate liable to taxation, shall, on the payment of such tax and proof of the same to the satisfaction of the governor and council, be reimbursed from the State treasury to the amount of the tax so paid; provided, however, the aggregate amount so reimbursed to any college in any one year shall not exceed fifteen hundred dollars; and provided, further, that this claim for such reimbursement shall not apply to real estate hereafter bought by any such college.

Such a method has many advantages. It tends to increase the popularity of the college in its own city and town. Such a popularity is of the greatest benefit, and as a whole it must be acknowledged that the colleges are not as well loved in the towns of their location as they are in many other towns. Such a method also might give to each college a certain freedom in asking for a share in the common municipal privileges which it does not now feel free to ask for. But the adoption of this method, or of any other of a constitutional or legal nature, rests with the people of each State as represented in its legislature.

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III

PRACTICAL ASPECTS OF PSYCHOLOGY

Some measure of practical utility is usually demanded of every phase of human activity before it becomes established as a recognized factor of the intellectual or material life. This demand affects all forms of scholarly pursuits; it influences the tendencies of the sciences and the arts; it determines the prominence of studies in the educational curriculum. The conception of a university, attributed to Lowell, as a place where nothing useful shall be taught, is not the popular one; and however much we may be disposed to question the legitimacy of this constant demand for practicality, or to wish that it were always inspired by a lofty and liberal conception of the relation between knowledge and the guidance of conduct, we cannot ignore its persistent reality. What is practical and what is not is hardly a matter of taste, but it is a matter of judgment, concerning which opinions differ and disputes are possible. What to one mind seems a practical justification of a certain line of activity to another mind seems quite unreal and questionable. Outside of those activities which result in a direct and tangible extension of a control over natural resources, or in an expansion of commercial influence, it is difficult to establish a consensus as to the kind of benefit and use which a pursuit must yield to entitle it to a place among the practical vocations of men. Nor does it require a keen observer of human affairs to discover that the demand for practicality has in recent times assumed a much more conspicuous and influential place than it formerly occupied, and that in more recently established civilizations and in newer countries has this tendency reached a notable development.

The time-sanctioned study of psychology has shared in the new renaissance of the sciences, and must be prepared to pass

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the universal test; it must be weighed and found not to be wanting in practical utility. Indeed, to no inconsiderable degree is the modern popularity of the science of mind due to the enlarged outlook of possible applications of such study. In what directions and to what extent psychology is practical is thus a very real and opportune question, the decision of which may be expected to affect materially the direction and nature of its further growth.

The term practicality, as applied to a particular study, can be applied wisely only in the light of a sympathetic and comprehensive view of the nature of the pursuit in question. In order to determine how far psychology is a practical pursuit it is necessary to understand the nature of its aims and methods; but this is no more true of psychology than of other branches of knowledge. In the college curriculum and in the distribution of university professorships many branches of knowledge are presented which have no immediate field of applicability, or, in so far as they have, make no attempt to emphasize the practical phase in the courses given. These courses, and the men who expound them, are largely concerned with theoretical sciences, and with studies which aim to give a wider acquaintance with the intellectual treasures of mankind, or aim to strengthen, to stimulate, and to liberalize the intellectual interests and powers of the student. To ask in what direction such studies may be justly required to have a practical value is to ask in what directions may the results of any branch of learning be expected to enlarge the facilities for the intellectual growth of mankind; in what way may it contribute to a broader and deeper knowledge of the environment, physical, social, and intellectual, in which our lives are to be lived.

The question thus arises whether psychology is merely or mainly an intellectual occupation, attractive and calculated to sharpen the powers of close reasoning and accurate observation, as well as to keep alive interesting forms of intellectual opinions, or whether it is calculated to yield results which may influence, however directly, the nature of our habits of thought, of our actions and beliefs, of our mode of

living. It is the latter alternative that will here be discussed. But in passing by the more theoretical forms of psychological doctrine—forms that are apt to lose favor in an age that is zealously devoted to practical aims and ends—it is well to note that speculations which lie remote from human activities, but which satisfy a worthy form of intellectual curiosity, have frequently contributed to the formation of a spirit, a mental attitude, which has deeply influenced the general thought habits of intellectual workers from one generation to another, and so has become a link in the complex chain of a progressive civilization. This alone should justify the recognition of such pursuits in an academic curriculum.

While it is not possible and perhaps not necessary to consider the practical status of psychology historically in the light of the shifting points of interest which have characterized it at various periods of its development, it is well to observe the close relation that binds the modern phases of psychology to its historical antecedents. It is easy to encourage a belief that exact methods of research will reveal essentially new discoveries, which in turn will revolutionize the aspect of a science and make it something altogether different in scope and nature from what it was formerly considered to be; but new methods and increased facilities are most valuable in stimulating a genuine but gradual evolution of scientific truth, while the ambitious claims of revolutionary discoveries have not infrequently been characteristic of a hasty and imperfect insight into the real nature of fundamental facts and relations. Modern psychology is here considered not as a new self-made science, but as the natural development of a venerable branch of knowledge under the influences of the dominant scientific tendencies of the latter half of this century. The evolutionary *motif* dominates the conception of the problems of the mind quite as strongly as it shapes the discussion of the nature of bodily forms and functions. The study of origins and of paths of development, and of all that complex series of sequential changes which constitute the process of growth has resulted in the recognition of a genetic

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or comparative psychology. This subdivision of the general science considers especially the problems connected with the unfolding of mental powers in the child, the problems arising from the comparative survey of the variety of mental endowments in the animal world, the problems of the evolution of mankind thru successive culture stages from primitive social and intellectual conditions to the present status of complex civilization. And in addition to the pursuit of these phases of mental development as a special division of the content of psychological science, the genetic point of view, the genetic method is constantly applied to the investigation of special problems in psychology, and frequently with marked success. It thus at once contributes to an enlargement of the psychological horizon, and it gives deeper insight and suggestiveness to the part of the domain already known. The recognition of this genetic aspect of modern psychology is essential to a fair estimate of its practical bearings.

The extension of the domain of quantitative investigation is a characteristic of modern science hardly second in importance and influence to the establishment of the genetic method. The two are in a sense complementary and supplementary. Certain phenomena are not readily susceptible of exact and quantitative investigation, but may be illuminated by the comprehensive description and analysis which result from a genetic and comparative view of the various forms of their occurrence; while the very nature of a different group of problems can only be revealed by a quantitative analysis of the several factors involved. Vague information often becomes science by the transition from description to measurement. The prominence of the quantitative factor in modern psychological investigation is a trait equally characteristic of the newer tendencies in other fields of scientific activity. The applications of the statistical method to economic and sociological questions, and the fact that measuring and counting and weighing form a very conspicuous factor in biological research, may serve as suggestive illustrations of the extension of the domain in which numbers hold their sway. In psychology, as in these other sciences, it is not the numbers

themselves, nor any magical property that clings to the use of the scale and the yardstick, nor of the more refined and precise descendants of these, that gives value to quantitative results. It is the fact that the quantitative method only discovers or renders more manifest relations that may exist between phenomena, which otherwise would remain unobserved or be but imperfectly understood. It is an acquisition of a more powerful logical tool, which like a telescope or an X-ray apparatus unfolds to sight the obscure recesses of a complex structure. It is a natural and a popular mistake to do homage to the means and to forget the end which gives value to results. The psychologist may fall in love with his newly acquired and elaborate time-pieces and measuring machines; and the practical man may forget that the hoarding of money is not wealth, or that there is no sharper contrast than that which separates the miser from the philanthropist.

The reason why psychology, and particularly the quantitative phase of it, is apt to appear as a new science is partly because of the shifting of the boundaries of the sciences, and the occupation by psychology of the territory in which these boundaries failed to meet, or into which the adjoining domains had intruded without warrant. What was formerly a group of scattered colonies has risen to the dignity of an independent power. It is true that psychology must frequently call in the aid of its allies, physiology and physics; but it is not true that psychology is a disguised form of either physiology or physics. It is true that in some portions of each of these sciences they deal with the same fact material, but it is equally true that the differences in their points of view constitute just that type of difference of purpose and interest which the division of the sciences reflects. It is true that many of the foremost contributors to contemporary psychology are not specifically psychologists; but this is to be viewed as a mark not of the incompleteness of psychology, but as an indication of its assumption of its true relations and responsibilities in the commonwealth of the sciences.

Psychology is quantitative or experimental largely in that portion of its domain bordering upon physiology and physics.

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The comprehensive realization of the interdependence of mental states and bodily conditions, not only in general outlines but in endless and remarkable detail, has permeated psychological discussions, and has profoundly modified the practical attitude toward mental phenomena. The treatment of nervous and mental troubles is more scientific, more rational, and more humane, because founded upon conceptions that have been acquired in the acquisition of a deeper knowledge regarding the relations of mind and body. And this applies not merely to the grosser and more serious mental abnormalities, such as insanity and idiocy, but quite as well to that endless series of minor deviations from normal mental health which seems to be part of the price to be paid for the brain culture demanded by civilized life. The irresolution of an impaired will, the insistent idea that tortures the mind with its irrationality but will not be thrown off, the capricious moods of an unstable, hysterical temperament, the depression and vague distress of overwork, the *Weltschmerz* of adolescence, are all more wisely and successfully ministered to, because of a deeper insight into their connection with nutritional and other conditions of the nervous system. Along with the positive benefits—the good things achieved—must also be considered the negative ones—the evils avoided. In almost every instance an advance in truth involves the partial replacing of an imperfect conception by a more perfect and suitable one, sometimes even the replacing of a false and pernicious attitude by a true and beneficial one. We recognize not merely that a bad dream or a bad temper may be traced to an attack of indigestion, but we recognize that recovery from very real disturbances of bodily functions may be aided by the stimulation of confidence and of an invigorating mental tone. Whether we shall believe this rationally and judiciously, or whether we shall believe it madly and faddishly, depends largely upon how much of sound psychology can be circulated in the common atmosphere. From one generation to another, and always in a manner suitable to the *esprit* of the generation, there have appeared groups of enthusiasts, advertising panaceas and the abolition of human ills as the

result of an exaggerated and fanatical devotion to some garbled system. Frequently a small nucleus of real truth, but distorted out of all recognition, underlies such dogmas. Some of the valuable practices of the hypnotic suggestion of to-day may be recognized in the extravagant performances of the animal magnetists and their curious progeny; and the medical practitioner of this or the next generation may incorporate into his work the small remnant of sound doctrine that lies buried beneath the unsightly rubbish heap of pseudo-scientific faith-cures.

The practical benefits of a science may be tested quite as much by what it leads men to disbelieve and to refuse to support, as by the beliefs and allegiances which it forms. Seventy years ago there appeared on the streets of Nuremburg an under-witted lad who, by shrewdly playing upon the credulity of those in whose care he happened to fall, became within a very brief period the wonder of the day, the famous Kasper Hauser. He was proclaimed as a child of nature, as one who had been brought up brutally in solitary confinement, and now first saw the light of day; he was glorified as the type of man before the fall, and utilized to prove the original status of the human body and the senses untainted by the noxious effects of civilization. It would be impossible for such an absurdly ridiculous story to gain credence to-day, and although the reasons for this are many, one very important one is the advance in psychological knowledge which these seventy years have brought with them. That a boy of sixteen, seemingly dumb, who had been brought up in absolute isolation and neglect, should, after three days' intercourse with men, learn to play upon the piano, or to knit a stocking, or in five weeks acquire enough language to tell his story in dialectical German—and all this and much more Kasper Hauser accomplished—is a suitable narrative for a Münchausen, but is impossible in a world which is subject to the psychological laws which are recognized to-day. This incident may be trivial, but it is none the less suggestive of the transformed practical attitude which has come in the wake of a scientific psychology.

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A distinctive feature of the modern equipment of the psychologist is his laboratory. It would be pleasant to believe that the purposes and the uses of the laboratory were generally understood by the public, even by that portion of the public that professes some interest in these things; but the queries to which a psychologist is exposed and the opinions which he incidentally overhears quickly disabuse him of such a belief. The older generation fail to see how the science of mind can accommodate itself in a workshop, and the younger generation absorb vague notions from popular reports and regard the laboratory as a modified *séance* chamber for the detection of spiritualistic mysteries and the study of unusual and weird mental experiences; or perhaps as a place where brains are examined, where one's personal shortcomings are revealed, one's character is read, and advice for the future given. In the popular mind it follows at once that if there be such a thing as a psychological laboratory it must of necessity be devoted to immediately practical purposes. Such popular misconceptions have doubtless not sprung up by chance, but they find no justification in the work which the laboratory really represents. There is no essential difference between the position which the laboratory occupies in the dissemination and advancement of a knowledge of physics or biology and that which it occupies in reference to psychology. There are differences of detail, important no doubt, and it is particularly true that, more frequently than is the case with other sciences, does daily experience give opportunity for noting in a modified form the observations systematically recorded in a psychological laboratory. But these considerations do not alter the identity of the purposes which the laboratory serves in all cases. It enables the student to verify personally the facts and principles which the science expounds; it adds the reality of actual experience to mere description, and supplements book knowledge as travel supplements reading. And it is furthermore valuable educationally because it removes vagueness of ideas, reveals less obvious details and relations, illuminates the sources of error inherent in haphazard observation, and furnishes a basis for the sound interpretation of

individual experience. This is one of the important purposes, and certainly a very practical one, of a psychological laboratory.

But every scientific laboratory is or may become a research room. The advancement of the confines of knowledge is as important as the dissemination of what is known. In psychology the mines of original investigation have been but recently worked, and rich veins may be discovered near the surface. It has the dangers as well as the advantages of a newly opened country. Mistakes are certain to be made; enthusiasm may obscure judgment; rich promises may be valued too highly, and small achievements too lowly. There is danger that a research will be appraised according to the elaborateness of its instrumental setting and not according to its intrinsic worth. There is danger of forgetting that a good tool is valuable, but that a skilled hand is more valuable. Not everything is worth doing simply because it can be done, not even if the result can be expressed in curves and percentages; and even if worth doing, it need not be of maximum significance. A rational perspective of importance consistently maintained will bring credit to psychological experimentation, while the exaggerated air of peculiar significance and profundity that clings to many reports of answers to queries regarding individual mental peculiarities, the undeveloped conceptions of children and the like, is apt to raise a doubt regarding the value of the experimental method. Time will bring about a sounder appreciation of values; it will become evident that not all the avenues staked out in the early settlement can become the main highways of traffic, and that in the long run the consensus of many minds with varied interests is more influential than the claims and advertisements of "boomers."

But the work of these laboratories has gone far enough, particularly in the way of research, to indicate the extreme value of the service which they perform. Questions formerly debated in a controversial spirit, and with only that uncertain appeal to evidence which an ambiguous experience could afford, may be guided to an *experimentum crucis* conducted

under definite conditions. Theories founded upon an inner plausibility of general relations may be tested by their capacity to explain the results and the detailed results of experimentation; and important theories are suggested in the course of investigation which could not readily have originated in any other way. And, as before, the negative benefits are as decided as the positive ones; experiment may disprove as well as prove. The sense of reality and tangibility which has come to the discussion of mental problems, from their association with experimental conditions and quantitative methods, can hardly be too highly prized; for its influence extends not only in directions which we may readily trace, but into many remote ramifications, unimportant in any single case perhaps, but significant in the aggregate. We test the pulse in the radial artery, but the influences which determine its character there are equally operative in the finest network of the capillaries.

There is a further function of the psychological laboratory which is an important factor in any discussion of its practical bearings. We measure the proportions of the human body and apply the methods and results of such study, in anthropology, to the differentiation of races and the problems of descent; in hygiene and medicine, to the determination of the effects of particular modes of life, climatic conditions, vocations, hereditary influences, upon the bodily structure; in education, to the determination of the laws of human growth in general and as modified by sex, by nationality, by social environment; in gymnastics, to the determination of a standard physical development, the correction of individual deficiencies, and the promotion of muscular symmetry. Such are the purposes of anthropometry. Why may we not similarly measure and study the capacities of the human mind? Why should there not be a division of mental anthropometry? Undoubtedly such a body of knowledge is amply worth all the energy and ability and expenditure which its accumulation would entail. Altho largely a program for the future, a very creditable beginning has been made, and several laboratories

and learned organizations are furthering the study of the distribution of mental endowments.

Here again it is well to observe the possible, perhaps probable, misconception of the practical bearings of such mental tests and statistics. Our interests are often and quite naturally personal and individual; and we are accordingly apt to demand of science an answer capable of immediate application to the special cases which engage our interest. The family cannot take the view of the patient as a case, nor become deeply absorbed in medical statistics. The practical man would doubtless approve of a laboratory of mental anthropometry, where one could have tested his senses and his motor capacities, his memory and his imagination, his powers of association and logical reasoning; where he could then have these compared with normal standards and a course of training prescribed to round out his mental development, or have indicated to him the vocation in which his talents are most likely to win success. This is an attractive ideal, particularly to minds that are intolerant of nice distinctions and careful judgments, and tend toward machine-like regularity and wholesale decisions. If such is the test of practicality which is to be applied to this phase of the work of the psychological laboratory, it may be well to make it clear at the outset that the test cannot be met; such a system, administered in such a spirit, would deserve and meet with the fate of phrenology or palmistry. There is no doubt that the shape of the skull and the lines of the hand are in a measure significant; so is one's gait, or the shape of one's ears, or the growth of one's hair, or one's handwriting, or one's peculiarities of speech, or one's tendency to certain ailments, or one's likes and dislikes, or a hundred other physical or physiological peculiarities; and it is just as unwarranted and just as absurd to erect an elaborate system of psychological interpretation upon any one of these as upon any other. It is on a par, so far as logic goes, with the interpretation of dreams and the regulation of conduct by omens.

The true and practical purposes of a science of mental an-

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thropometry would be concerned with the establishment of norms or standards of the several elements of our complex psycho-physical constitution; with their general distribution; their correlation with one another and with physical traits; their variations under differences of environment physical, racial, or social; their development in youth and decline in old age; their susceptibility to training, and an endless series of similar problems of kindred import. The results of such an inquiry would be largely statistical, and its chief value at the outset would be a general illumination of psychological facts and principles. This can be done, even if we cannot focus the light upon a special area. In only a secondary way, and as the outcome of a more developed stage of investigation, would it be possible to study the individual as a representative of generic characteristics. Such application will always demand insight and judgment, and while lacking in the popular requirements of definiteness and finality will possess the scientific virtues of soundness and rationality.

To complete this summary of the possible applications of psychological knowledge something should be said specifically of abnormal psychology—a field of great intrinsic importance and with significant practical bearings. It deals with the variations of mental phenomena under conditions differing in one respect or another from the accepted standard of normal mental action; and it derives its significance from the great variety of such deviations and their close relation to the normal forms. Our standard of a mental process or faculty is apt to refer to its mode of occurrence in the adult civilized, normal individual. The psychology of development extends the outlook to the child and the primitive man; abnormal psychology brings into the field of observation the unusual, the irregular, the decadent, the morbid. Like comparative psychology it is at once an extension of the field and the application of a method. In its former capacity as a descriptive science it gives information regarding dreams and dreamlike states, hypnotism, the mental effects of drugs, illusions and hallucinations; the arrested development of idiocy, the lack of balance in insanity, the fluctuation of tem-

perament in mania and melancholia, the decay of dementia; the special forms of lack or loss of speech, of memory, of the will, of personality; the aberrant types, such as the criminal or the man of eccentricity or of genius; the striking manifestations of mental contagion, and the psychic epidemics of crowds. Much of this material is equally considered in other sciences, particularly in medicine, but the point of view of the psychologist is sufficiently distinctive to sanction the inclusion of these topics within the content of his specialty. They are to him not merely, and often not mainly, descriptions of interesting conditions, but serve as a method of illuminating the nature of normal processes. We certainly derive as much and probably more information regarding the fundamental psychological nature of the activities concerned in language, oral and visual, from the study of the impairments of language as they occur in disease, as from any other source; and the study of hypnotism as an experimental method applied to the solution of normal psychological processes is fully as important as the description of the characteristics of this interesting condition. As well as other divisions of the science, abnormal psychology contributes to the formation of the general conceptions which we are to entertain of mental functions; it helps to determine the psychological *esprit*, the dominant attitude, and thus aids in a very practical way the advancement of psychological knowledge, the capacity to interpret the daily experiences of the mental world.

As indicated at the opening of this discussion, the consideration of the practical aspects of psychology seems to require the description of the nature, the aims, and the methods of psychological tendencies, and particularly of the tendencies dominant in contemporary thought. If this general survey does not suggest the nature of the practical applications of psychology, it is doubtful whether a more direct argument will succeed in this purpose. It is quite possible, however, that a more special consideration of one or two most prominent fields of applicability will serve to make more tangible the kind of practicality which is to be demanded of psychological investigation, and may thus justify the claim

suggested by the more general treatment. It may serve at the same time as an opportunity for surveying in a more compact group the several directions in which the benefits of psychology radiate.

Most prominent in the discussion of the special applications of psychological principles is their application to education. The exponents of psychology and the exponents of education, the practical teachers and even the mothers, are urging the intimate dependence of education upon psychology; and child-study has become one of the popular rallying cries of the day. In its general trend this enthusiasm is most commendable. Unfortunately its modes of manifestation frequently reflect more good intentions than the ability to carry plans to a successful issue. The present writer, however, cannot at all agree with those who regard this tendency as a mistake, founded upon a misconception of the nature of experimental psychology. We may admit and even urge that in a fundamental analysis no truly psychical fact is ever measured, but only its concrete representative in a given psycho-physical organism, and we may none the less claim that this admission and other admissions of similar import in no way affect the attitude of educationalists toward psychology. The teacher looks for help from the psychological laboratory because he feels that the processes of the schoolroom are akin to the processes studied in the laboratory. They are bone of his bone, and flesh of his flesh. The teacher did not find much inspiration in the older expositions of psychological doctrine, but he does expect it from the psychology of today. It is likely that he has been underestimating the significance for his daily work of general psychological principles, independently of their quantitative establishment, and that he is also in danger of overestimating the importance of the merely quantitative form which these principles now assume. None the less the scientific tendencies in modern psychology must be given the full credit for having brought about the realization of the organic bond that binds together psychology and education; and perhaps it should be added that the same tendencies must be ready to share in the re-

sponsibilities for the extravagant and unintelligent forms which this realization has in part assumed. These unfortunate aspects of child-study reflect the prevalent tendency of a passion to apply every doctrine to special cases; to explain details for which an explanation cannot be legitimately demanded. It is only a special case of a false conception of the relation between theory and practice. It is true that in part the relation of psychology to education is similar to that of physiology to medicine; but the physician does not write his prescriptions by a mechanical application of physiology and physiology only, and far less can the teacher hope to find in psychology a series of ready-made pedagogical prescriptions to meet special cases. If this were the only kind of practical aid which teachers expect from psychology, it would be well to warn them that their hopes are likely to be disappointed.

It would be unfair to hold that most of the leaders and the followers of the child-study movement entertain no more comprehensive views of the purpose of such study than those above criticised. There is a creditable appreciation—altho it would be more creditable if it were more extended—of the true importance of the study of the development of the child in body and mind; there is a creditable conviction that one cannot wisely direct what one does not thoroly understand; and these convictions are leading young men and young women to devote themselves professionally to the study of the science and art of education as based upon a comprehensive knowledge of the developing human organism, upon scientific analyses of the mental processes upon which school work proceeds. If the imparting of information is not to overshadow but to be properly co-ordinated with the true education of the mind, and if mere acquisition is to be directed most economically; if mechanical drill, the blind following of a method however good, and routine perfunctory service are to give way to practice that shall be disciplinary, yet judicious; elastic, yet inspired by a principle; sympathetic, but not sentimental, there seems no surer way of helping on this transformation than by raising the teacher to a more discerning appreciation of his function thru an appreciation of

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the psychological status of the mental powers which he aims to develop. A text-book of psychology cannot of course be used as a Baedeker of the schoolroom, with the important occasions marked by double stars, and with minute directions for meeting the emergencies of the pedagogical traveler; but it can become helpful, as a sympathetic account of the history and institutions of a country is helpful to a sojourner in that country.

Whether, as yet, the results derived from the study of child-development are commensurate with the outlay of energy and enthusiasm which has been expended upon them; whether the pages that record the credits of sound inquiry, yielding deeper insight into child-nature and child-growth, so largely obscure the pages of debits where are entered the superficial inquiries or injudicious ones that arouse distrust and misconceptions, is a perfectly legitimate question which must be argued without bias and decided in due season upon its intrinsic merits. If this decision is to be a favorable one, then it is essential that investigation shall be guided by a wise and liberal perspective of relative values, and a sound conception of what is really and not merely superficially practical. Sympathy and tact, insight and general culture, must not be discarded as old-fashioned tools suitable for primitive industries, to be replaced as rapidly as possible by the more modern machinery of psychological question-sheets and statistical results. Nor must we forget that in education as in other things the longest way round is often the shortest way home, that the greater the haste to reach practical results, the less speedy our progress. Let education and psychology progress with a mutual recognition of their relations as science and art, but let this recognition be inspired by a liberal interpretation of the significance alike of theory and of practice.

The biological sciences that deal with life form the necessary foundations for the arts that are concerned with the regulation of life. The functions of which psychology teaches have much to do in making life what it is; and by virtue of this relation psychology has a voice in the counsels that advise how life shall be made most worth the living; how the

good shall be achieved and the ills relieved. The medical profession—considering its traditional attitude toward discussions that smack of speculation and metaphysics—has been prompt and generous in its recognition of the bearings of recent psychological investigations upon its own practices; and in this direction lies a second great area in which psychological principles may find application. The relation between psychology and medicine is especially close in the field of nervous and mental diseases; mental abnormality can be rightly comprehended only in the light of mental normality, and thus psychology becomes a propædeutic to psychiatry. The methods of investigation here run closely parallel; several hospitals for the treatment of nervous and mental diseases have added a psychological laboratory to their equipment, and students of psychology constantly derive aid from unusual manifestations of mental functions which nature's experiments in disease afford. There is a distinct trend in modern medicine to treat patients as much as diseases; and an equally distinct trend to recognize that broken bones, and germ diseases, and other outwardly marked ailments are not the only ills that flesh is heir to. Both these tendencies are in a measure psychological, for they place emphasis upon the mental habit which clothes this flesh in its journey through life and shapes it not a little. Perhaps in the future the proverb may read, "Ubi sunt tres medici ibi sunt duo psychologici."

Can man as a social animal, by a knowledge of the laws and nature of his social tendencies, direct and guide these tendencies for his own welfare? And does such knowledge involve an appreciation of human instincts and motives, human passions and habits of thought? So far as these queries are answered affirmatively, they determine one phase of the practicality of sociology and economics, and with it also one further phase of applicability of psychology. It is hardly accidental that there is at once a strong psychological school or tendency in education, in medicine, and in sociology. It indicates that those who make man the proper study of mankind recognize that a most potent constituent of man is his mind.

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Quite the same is true of anthropology, the importance of which in its relation to comparative psychology has already been indicated. Let it simply be added that if within this general field any portion may be designated that promises, more than any other, immediate practical returns, it would probably be that of mental anthropometry; for the data thus obtainable, and the statistical method by which these data deliver their message, are applicable to problems that are quite as much anthropological or sociological in scope as educational. The same highway accommodates various lines of traffic; and each traveler follows it to a different destination. Just so far as any of these branches of knowledge are sanctioned as practical, should psychology share in the privileges which such sanction may bring. The history of man's achievements and aspirations is a very comprehensive work in which each may read what his interests and attainments enable him to decipher. The record of the development of industry and of commerce, of government and of society, of language and of the arts and sciences, is historical to the historian, sociological or economic to the sociologist, philological to the philologist, literary or scientific to the literateur and the scientist, and it is psychological in all these aspects, because in no case has the influence of mental factors been an unimportant one, because in all parts the record furnishes the material for the history of human endowment, human culture, human mentality.

It is because psychology in these various ways furthers a knowledge of diverse phases of life and nature that it claims to be a practical pursuit. It rests these claims largely upon the same foundations upon which other sciences rest them, that right knowing is the pathway to right doing. In large measure psychology is practical in that same indirect and yet very real manner in which knowledge in general affects conduct. Facts give rise to theories, theories determine investigation, and all create interests and attitudes which mark the progressive stages of civilization. In a subsidiary way psychology is practical, in a more immediate sense, by furnishing to trained minds precepts and rules of guidance for the arts

of education, of medicine, of society, and of life. That in these respects it has not yet accomplished all that its advocates hope, and that it has suffered at the hands of enthusiastic but injudicious friends, may be admitted without disparagement of psychology. But the modern psychologist, when he reflects upon the very marked change of general attitude which the sister sciences and the educated public bear toward his specialty, as compared with the attitude of a few generations ago; and when he observes the material provisions for the further prosecution of his science and the interest and enthusiasm which are now in evidence, is certainly justified in an optimistic attitude. An essential factor which has brought about this outlook is the growing sentiment of the practical value of the study and the results of the science of mind.

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IV

THE NORTHWESTERN STATE UNIVERSITY AND ITS PREPARATORY SCHOOL

To the teacher accustomed to Eastern conditions higher education in the newer Northwestern commonwealths presents many perplexing problems for consideration and solution. There is none, perhaps, more many-sided or dealing with so many phases of educational development as that of the existence of a preparatory department in connection with the State university. Where, as often occurs, its enrollment largely exceeds that of the university itself and it apparently occupies a more important place in the eyes of the students and community, one is sorely tempted to adopt the views of the president of one of the large State universities west of the Mississippi, expressed in a personal letter: "There are few greater curses to educational institutions of higher learning than a preparatory department." A more careful and unprejudiced study of the whole field leads, however, to a substantial modification, if not a complete abandonment of the original opinion. It is the purpose of the following pages to consider the preparatory departments of the State universities of Montana, Idaho, Washington, Oregon, Nevada, Utah, and Wyoming; the reasons for their establishment and continuance; the secondary education of the several States in the light of such an investigation; and the college entrance requirements of the different institutions.[1] The results secured have been gained from a somewhat extended correspondence with the university authorities, supplemented by catalogs and reports of the superintendents of public instruction.

[1] These seven universities, tho differing in date of establishment, have many points in common outside of their geographical position. The University of California, for obvious reasons, is omitted from the discussion.

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It is worth noting that a preparatory department is not peculiar to these universities alone. It is found in the universities of North and South Dakota and Colorado, altho having in the last-named State its separate buildings and grounds. California had a preparatory department until 1872, while it was discontinued in Wisconsin in 1880, in Minnesota in 1887, in Kansas in 1890, and in Nebraska in 1897. "The University of Illinois," writes President Draper, "has always maintained a preparatory department. It has one now. It maintains this department because of a necessity. If it did not do so, there would be many in the State desiring to reach the State university who could not do so for lack of a high school at home."

The seven States under consideration have an area of 689,650 square miles and an estimated population of 1,500,000. With such a scattered population,[2] the school facilities in many sections remote from the centers of population must be inadequate and unsatisfactory. It is a cause for surprise that in some localities schools have been maintained at all. That so much is accomplished in the most unfavorable environment is an eloquent tribute to the courageous, persevering devotion to education shown thruout the West.

To such conditions the preparatory school of the Northwestern University owes its birth, its growth, and present existence. If it is a necessity in a State as plentifully supplied with secondary schools as Illinois, what must be the need in Wyoming, with two-thirds of the schools in some counties away from railroad and stage lines; or Idaho, with its many villages almost as inaccessible? The Northwestern State University does not maintain a preparatory department from preference or to secure an increased enrollment, so often regarded, especially in newer communities, as one of the best and truest proofs of success. Standing as it does at the head of the educational system of the Commonwealth, its constant aim is to secure a larger number of well-equipped students, while raising the standard of the secondary schools. No fact

[2] Were the section as densely populated as Massachusetts, it would have a population of 189,000,000!

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is more evident from correspondence than that it will gladly welcome the day when the secondary schools shall have so increased in number and efficiency as to justify the discontinuance of the preparatory department. The university and school authorities are working in the most cordial sympathy. This is evidenced by the constantly increasing number of preparatory schools on the accredited list, the general adoption of uniform courses of study, the discontinuance of the earlier years of the university preparatory-school course, and the raising of the university entrance requirements. Sufficient examples of such reforms will be cited to prove this upward tendency.

In all the States a system of " accredited schools " prevails, with modifications due to local conditions.

In Montana a high school is placed upon the accredited list after an examination by a committee of the State Board of Education. This board prescribes a course of study for the grades below the high school as well as a high-school course. Graduates of accredited schools are admitted to the courses in the various State educational institutions for which their previous work has prepared them. Students not graduates are required to pass the regular entrance examinations. There are nine such schools on the accredited list. The university preparatory course covers three years.

In Idaho the university has for the past two years followed a system similar in many respects to that adopted by the University of Minnesota. Examination papers covering the work of the preparatory course are sent to all schools desiring them. The papers submitted by the students are graded by the local teachers and then sent to the university, where they are again graded and certificates sent to the successful students. These certificates are counted as credits on the entrance examinations, when presented within a specified time. While the university has no formal list of accredited schools, students coming from schools whose principals and work are known to the university authorities are admitted provisionally on the subjects covered by diploma or principal's certificate. The university preparatory department has a course of two years, a third year having been

dropped in 1898, owing to the progress that had been made by the State secondary schools.

The University of Washington discontinued its preparatory department in 1895. As students coming from "two-year" and "three-year" high schools are permitted to take the work required for entrance at the university without credit, these "Sub-Freshman" studies are in reality those of the last two years of the preparatory course. The high-school course is mapped out by the State Board of Education. A school is placed on the accredited list after an examination by a committee of the faculty or the president. There are five "four-year" high schools (whose graduates are admitted to the university without condition), six "three-year," and three "two-year" mentioned in the last catalog. Additions have been made to the list since.

A somewhat similar plan is that of the University of Oregon. Students must have thirty "credits" above the eighth grade before they are allowed to enter the Sub-Freshman classes. These credits should be in grammar, literature, and composition, Greek and Roman history, civil government, algebra, geometry, physiology, advanced physical geography, and, if possible, Latin and physics. Sixty-two "credits" are required for entrance, so that thirty-two, or the equivalent of two years' work, can be secured at the university. The latter is aiming, as of late years, to throw more and more of this on the outside schools. There are forty-five schools on the accredited list, two of which, President Chapman writes, give complete preparation for the university.

No statistics are given of the number of accredited schools in Nevada. The last university catalog states that "The principals of the leading high schools have signified their purpose to prepare students for university courses, and will meet, so far as possible, the university requirements for admission. All such schools will be designated as 'affiliated high schools,' and their graduates will be admitted upon certificate." The university preparatory department has a course of three years.

High schools and academies in Utah are placed on the accredited list, upon application, followed by a visit and favor-

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able report by a committee of the university faculty. Students from such schools are admitted upon certificate. There are two schools which give complete preparation for the university and four others partly equipped. The university has a three years' preparatory course.

The University of Wyoming has a very thoro preparatory course of three years. Schools adopting this are placed on the accredited list and their graduates admitted upon all covered by their diplomas. Two high schools give complete and nine partial preparation. It is the policy of the university to accept work from all the schools of the State, as far as possible.

After these preliminary statements, the question arises, How severe or how advanced are these preparatory courses? To answer this in detail would be impossible in the space allotted. It can best be explained by stating the entrance requirements. These can readily be compared with those of Eastern institutions and the divergence or inferiority shown. The requirements for two courses have been selected, those most common in the East, that leading to the degree of bachelor of arts and that to the degree of bachelor of science. There are numerous others, for the Western University to meet the varied needs of its constituency offers more than many a New England college with a much larger attendance or teaching corps. The two chosen, however, are typical in all sections of two vastly different tendencies. When any special freedom in the choice of subjects is permissible (as in Washington, Oregon, and Utah) the subjects characteristic of each course have been selected. While it has doubtless been impossible to secure absolute exactness in every case, the greatest possible uniformity has been secured, while no slight errors need interfere with the validity of the conclusions reached.

The seven universities divide themselves into two classes, according to the severity of the entrance requirements. The first class is considerably below the second. It includes the universities of Nevada, Idaho, and Montana. The requirements for admission are:

	Nevada	Idaho	Montana
Age.....	15	16	16
		A. B.	
English.....	Grammar. Comp. and Rhetoric. Literature (four masterpieces studied critically, six read).	Same. Composition. Literature (four masterpieces critically, twenty recommended for collateral reading).	Same. Comp. and Rhetoric. Literature (ten masterpieces [intimate acquaintance], nine general).
Mathematics.	Arithmetic. Algebra. Plane Geometry.	Same. Same. Plane and Solid.	Same. Same. Plane and Solid.
Latin.....	15 exercises Viri Romæ.	Viri Romæ (selections). 3 books Cæsar.	4 books Cæsar.
	4 orations Cicero.	3 orations Cicero.	4 orations Cicero.
History.....	Roman. American.	General. United States. Civil Government.	General. United States.
	Physical Geography.	Same. Descriptive Geography. Physiology. Drawing. Shop Work or Wood Carving.	Physics, one year.
		B. S.	
	Same as A. B., except more Algebra and Solid Geometry are substituted for Latin. Elementary Physics and Chemistry will be added in 1899.	Same as A. B., except Elem. Rhetoric, Word Analysis, and American Literature are substituted for Latin.	Same as A. B., except Elementary French or German (ability to read easy prose) and one year of Biology or Chemistry are substituted for Latin.

The entrance requirements for the second group, consisting of the universities of Washington, Oregon, Utah, and Wyoming, are much nearer Eastern standards. This can be seen at a glance:

	Washington	Oregon	Utah	Wyoming
Age.....	15	*	16	*
		A. B.		
English....	Grammar. Rhetoric and Comp. Literature (four masterpieces).	Same. Same. Literature (four masterpieces).	Same. Same. Literature (ten masterpieces).	Same. Same. Literature (eleven masterpieces).
Mathematics.....	Arithmetic. Algebra. Plane Geometry.	Same. Same. P. and S. Geometry.	Same. Same. Plane Geometry.	Same. Same. Same.
Latin.....	4 books Cæsar.	Cæsar.	4 books Cæsar.	Cæsar (selections).
	4 orations Cicero.	6 orations Cicero.	4 orations Cicero.	Cicero (selections).
	6 books Vergil.	2 books Vergil.	6 books Vergil.	4 books Vergil.
Greek.....	2 books Anabasis.	4 books Anabasis. 3 books Iliad.	3 books Anabasis. 3 books Iliad.	4 books Anabasis.
History...	American.	Ancient.	United States.	Gr. and Roman. Mediæval. Modern. English. American.
	Civil Government. Physics. Botany.	Same. Same. Chemistry, one year.	Geography.	Civil Government. Physics. Physiology.
	One of 12 subjects additional.			Physical Geography. Physiography.

* Age not stated.

B. S.

Same as for A. B., except French (grammar, 150 pages reading, composition) or German (grammar, 150 pages reading, one classic, composition) takes the place of the classics. Four additional subjects must be chosen from a list of twelve offered (sciences, history, etc.).	Same as A. B., except Plane Trigonometry and French (elements, modern novels, four plays, fables, etc.) and German (advanced plays, novels, composition) are substituted for the classics.	Same as A. B., except two years French or German, Botany, Zoölogy, Physics, Chemistry, Solid Geometry, and Plane Trigonometry are substituted for the classics.	Same as for A. B., except that one year of French, two of German, Botany, Solid Geometry, advanced Algebra, and Plane Trigonometry are substituted for the classics.

The requirements in all the institutions have recently been raised, or will be the coming year. Thus Wyoming has forced its former Freshman year back into the preparatory course, while Utah's requirements are now as high as those of Leland Stanford. Nevada adds science to its B. S. requirements in 1899. Favorable reports were also received from Washington, Oregon, Idaho, and Montana.

In the light of Eastern standards one is likely to criticise the requirements of the group first cited as too low, either in comparison with colleges of his acquaintance or their Western neighbors. Were these the only things to be considered, such criticisms should be accepted as just. The conditions prevailing in the older States cannot obtain in the tier of States under discussion. Educational theories, such as apply in ordinary communities, are worthless in many instances here. From an intimate acquaintance with one university of the group, I must maintain that low requirements are not always censurable and that the three universities are doing far more in the way of educational development than might be gleaned from the mere reading of the list of required subjects.

In the early part of this article I called attention to the scattered population and to the difficulty, almost impossibility, of maintaining schools in many sections. A few illustrations and comparisons will add greater force to the argument as far as Nevada, Idaho, and Montana are concerned. In 1890 Nevada had two inhabitants to every five

square miles, Montana eight to every nine square miles, and Idaho one to every square mile. Had Massachusetts had the same density of population as Nevada, she would have had some 3300 inhabitants. It needs no words of mine to portray the difficulty of maintaining good common schools, not to say high schools, under such unfavorable and discouraging circumstances. Of Nevada's 45,761 inhabitants 16,000 were in the three cities of Carson, Virginia City, and Reno. Thirty-two thousand, or nearly one-fourth, of Montana's 132,000, were in the four cities of Butte, Helena, Great Falls, and Anaconda. It is to be presumed that the same proportions prevail to-day, tho possibly in Montana the city population is greater. Thus the States, as a whole, are much more sparsely populated than would appear at first sight. Idaho had no large towns in 1890, and to-day the population is quite widely scattered. In many sections, then, from which the university must draw its constituency, the educational opportunities are limited to the rudiments. The student cannot find a school that will prepare him and must come to the university. This, in its preparatory department, must supply his needs. Had it no preparatory course, or one of high grade, it would be utterly unable to help him. Its purpose is to encourage the seeker for knowledge, not the opposite. Few comprehend the histories of self-denial and privation that so many of our students can tell. To turn away such ones because they failed to reach an ideal would be to prove false to the best purposes of the university. The Northwestern State University has other objects beside giving its students the orthodox college course. Many never complete it. A large percentage do not complete the preparatory course, owing to insufficient means or other hindrances. Still, to each and all the influence of the time spent in the State's chief educational institution is a precious memory, a continual inspiration to higher and better living. In meeting the needs of such we doubtless find the chief reason for the low requirements. The sparsely settled condition of Nevada is a satisfactory explanation of the few subjects for entrance. The Universities of Idaho and Montana

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are both young and in young States. Their steady improvement is an earnest of their intentions.

Low as the requirements appear, it will be seen that along some lines the demands are as great as in Eastern colleges of high grade. This is especially true of English and mathematics. The English requirements of Nevada are more rigid than those of a well-known New England college whose catalog lies before me. The same might be said of Idaho and Montana, whose requirements in mathematics are above those of the New England institution. The requirements in history are equal in Idaho and Montana. In the classics, however, the Eastern schools lead. No Greek is taught in the public schools of any one of the three States, and the Latin preparation is defective.[3] The practical utilitarian tendency of the West is probably in a measure responsible. Still, there are older and reputable colleges in the East that require no Greek for entrance and whose Latin requirements are low. One of the three requires a modern language for the B. S. course and a science. It is to be hoped that the others will follow. To sum up briefly: These three institutions, while below the level of Eastern colleges of good grade, excel them in certain requirements and are steadily adopting others. They are fully up to the standard of many older schools, some of them of repute. They are doing excellent work under peculiar conditions—conditions which largely determine their requirements.

In three of the four States of the second group, Utah, Oregon, and Washington, the opposite of the previously mentioned conditions prevails. The States, tho not densely populated according to Eastern standards, have a much larger population and are more thickly settled. They contain larger cities, and more cities and towns of some size. Feeders are consequently more numerous and of higher grade. The universities, too, have been established a longer period. Wyoming is an exception. Its density of population is less than any one of the seven States except Nevada.

[3] This statement is based on such reports and other documents as are at my command.

Cheyenne and Laramie are the two large towns. The State and university are both young. To establish such a high preparatory standard, in the face of such obstacles, is an act worthy of high praise. It is needless to enter into any detailed comparison of the four. They differ in slight details, tho agreeing in the main essentials. What was said of the work in English and mathematics under the former group can only be repeated. History figures extensively in Wyoming. The requirements in the classics show a marked advance, in some cases being in advance of reputable Eastern institutions. Greek is required in all four for the A. B. course, while prose composition, sight reading, and (in some cases) collateral reading of high-grade reference works are exacted. Science is required on quite an extensive scale. French and German take their place as required subjects for the B. S. course. In several instances quite advanced courses are given. In short, the four compare favorably with any similar group of old established colleges outside of a few prominent ones. When attendant circumstances are considered, the comparison will be in every way favorable to the West.

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V

THE LIMITATIONS OF MATHEMATICS

It is necessary to know not only the processes employed by each science, but also when those processes are applicable; to realize its extent as well as its content, and to be able to draw the line which separates it from other subjects while marking out the boundaries along which they impinge upon it.

These important considerations have been somewhat overlooked by the votaries of mathematics. They have subscribed so completely to the boasted accuracy and omnipotence of mathematical processes that they have neglected the what in considering the how. This is quite natural because of the compactness and independence of their operations.

In practically all the sciences there are some steps in their demonstrations with "risers" so high that without external aid the ascent cannot be made; thus, physics is frequently required to call upon chemistry for assistance, chemistry in turn makes demands upon physics, geology is powerless at times without the help of both physics and chemistry, while all are obliged to lay mathematics under contribution in order to mount some particularly high step. In mathematics, on the other hand, we must conceive the steps as of lesser height or that the force within is greater than is the case with the other sciences, for it passes upward from hypothesis to conclusion without levying upon any of them for aid.

It will be said that this must of necessity be true, since mathematics is an abstract science, while the others named are concrete. If this be the reason, then we come to the first limitation of mathematics: that its conclusions are correct only as long as it deals with abstract concepts. Suppose a stated problem postulates concrete relations, to what extent can the solution be reliable? If we say that these concrete relations must be represented by abstract concepts, numbers, or sym-

bols, then the proof of the correctness of the result when brought back into concrete form must be established by testing it, by applying some standard taken from the established facts of daily experience. Thus, suppose we were required to find the side of a square board which contains exactly one hundred square inches. We pass from the idea of unit of measure and perform upon the abstract number one hundred the process called the extraction of square root; the result we shall find is plus or minus ten. Now if we pass back again to the concrete we have as the edge of the board plus ten inches or minus ten inches. From our knowledge of real things or from the experiences of daily life, we know that the first result is correct, while the second does not admit—outside of vector analysis—of any interpretation.

This illustration becomes more emphatic if we have an equation upon both of whose members we are required to perform the operation of the extraction of the square root. Then we should have the ambiguous sign on both sides of the equation with four possible combinations of signs. That is, we could combine a plus with a plus, a plus with a minus, a minus with a plus, or a minus with a minus, and all the knowledge of all the mathematicians cannot tell which combination will give correct results and which will not unless an appeal be made to the inherent character of the data, the material relations in the conditions, or our knowledge of what the result ought to be. We are sometimes driven to the reasoning of the ancients such as they employed when they said: " The earth is in repose because we see it to be so, and because it is necessary that it should be, since repose is natural to the earth."

If the argument is advanced by way of refutation of the above that the extraction of roots is rather a mechanical operation than one strictly mathematical, and, therefore, mathematics should not be responsible for any ambiguity in the results, then we are forced to state the second limitation of mathematics. It is, that results are reliable only when recognized mathematical operations are performed.

We see it stated that since the value of a fraction is de-

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termined by the ratio existing between its numerator and denominator, if we conceive the numerator to remain the same while the denominator increases, the value of the fraction becomes smaller, and frequently an instructor gifted with illustrative resources will call attention to the fact—perhaps bitter in the experience of each member of the class—that as the number in the home family increased, the piece of pie for each diminished in size.

The converse is also given that as the denominator diminished the value of the fraction increased, and sometimes the solution of a problem depends upon the carrying of this hypothesis to its ultimate conclusion, that if you divide 1 by 0 the quotient will be infinite. That is, the part is infinitely larger than that of which it is a part.

It may be said that when we divide by a quantity less than unity we are in reality multiplying, but if zero is the divisor to what fractional factor is it equal? One divided by infinity? If so, we come to an identity that infinity is equal to infinity, which did not exist in our hypothesis. If we had divided 10 by 0 we should have found infinity as the quotient, but if we had attempted to equate the products of zero times infinity in these two cases and say that therefore one is equal to ten, we would be met with the statement that all zeros are not equal, neither are all infinities equivalent, that zero is merely a symbol for a quantity smaller than a quantity can possibly be, while infinity represents a limitless range of values all greater than any attainable value, values bearing to one another all conceivable as well as inconceivable relations.

We are also told that a parabola returns to itself, or that it cuts the axis again at an infinite distance from the other point at which it intersects the same axis. But when we place this value in the equation of the curve, we find that this point of intersection of the axis is an infinite distance from it. Thus it appears that this important point is in two places at the same time—on the axis and at an infinite distance from it. This curve has another interesting property. It is required continually to recede from its axis, yet when it reaches an infinite distance it becomes exhausted and continues in a direc-

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tion parallel to the axis. We now have two lines parallel to one another, but like Orestes they cannot rest. The fate of parallel lines requires them gradually to approach until they meet in that second infinity. These two lines—one of which, Hyde-like, was impelled to recede from the other until the refining influence of infinity restored the Dr. Jekyll character, when it was brought back to meet its axis in this new infinity. What then happens we do not know.

There are many people who revel in these concepts of infinity and delight in juggling with its evasive symbol, yet when spoken to about an infinite Being of infinite love, they throw around themselves the protecting dogma " that a finite mind cannot conceive an infinite being."

This infinity has still another peculiarity, and that is, its positive value is equal to its negative value. Expressed in familiar terms it means that if a man owes an infinite sum of money he is as well off as if he possessed a like sum—perhaps some of our defaulters for large amounts have been influenced by this principle while attaining respectability. Expressed in terms of direction it avers that if you start to the right at the same time at which one sets out in the opposite direction you will meet, if you go far enough, in infinity. This of course refers to movement in straight lines, not the curve around the earth.

These opposite directions are not limited; a similar result would be reached if an infinite number of couples started under the conditions named above. All would meet; hence, space is curved, and if human vision were sufficiently powerful and no obstacles were in the way, our disheveled mathematicians could keep their back hair in order without the use of a looking glass.

What is this infinity? It is that place, space, or state in which the impossible that must happen happens and in which the unrealizable is realized. When zero enters an equation it becomes a disturbing factor. It drives out certain terms that are not wanted but coquets with those that may be of use.

We might well question the accuracy of that science which permits such uncanny tricks were we not assured that zero

and infinity, being non-quantities, and hence unable to express relations, are not amenable to mathematical laws and therefore may vitiate mathematical operations into which they enter. This is another way of stating the third limitation, that mathematics must deal with quantities.

There are many persons who think that if the elements or data of a problem be once stated, but little is required for reaching a conclusion beyond such phrases as, "it is a well-known fact," "as already shown," etc., and a forcible use of the word "therefore." But much more is needed. The data must be clearly scrutinized to see that their representatives fall properly within the domain of mathematics; no operations should be performed except those which belong with unquestioned right to this science, and then common sense must keep close watch on each step while every result which does not tally with human experience must be regarded with suspicion.

There are mills for wheat and mills for corn, and if we wish meal we must take corn and not wheat to the corn mill, nor could our wants be gratified if wheat were taken to either.

It is said that "figures do not lie," but they can be made to.

With a due regard to its limitations, with a clear apprehension of its processes and a close check upon the intermediate steps, mathematics can accomplish more than any other science. From the fact that each conclusion is so closely related to its immediate postulate or hypothesis, that every conclusion furnishes a vantage ground from which one can look down the vista of proof to the fundamental axioms as well as upward to numberless applications, and the close interdependence which it demands between the inductive and deductive processes, mathematics has been, and must ever remain, the sharpest stimulus to accurate reasoning and the best mental discipline that the curriculums of studies afford.

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VI

HOW TO STUDY HISTORY

Our problem is "how to study history." As the first step toward its solution we must recognize that we cannot capriciously choose our methods of study: we cannot approach history in this manner or in that, as fancy may dictate; if we do we shall get, not history, but the semblance of history. Every subject and every object dictates its own methods of approach: each has enfolded within itself the laws of its being, and this being can be grasped and studied only thru obedience to these laws. Just as with electricity our mastery is in exact proportion to our comprehension of its nature and our obedience to its principles, so also in history our grasp is measured by our knowledge of what history really is and by our skillful adaptation of methods of study to its essential being. We conquer in the field of education, as in every other field of life, by intelligent self-surrender, by voluntary obedience to a higher law, by the identification of the individual mind with the one absolute mind, which is the true substance of all the phenomena of life.

It follows that in determining intelligently how to study history our first question must be, "What is history?"

The general statement, "history is a record of life in its most significant aspects," will doubtless be accepted by everyone. But the question immediately arises, "What are the most significant aspects of life?" The answer to such a question is always subjective: "Significance" is a relative term, and its location must vary with its judge. Since it is man whom we ask, the response is of necessity, "The most significant aspects of life are those which concern the progressive development of humanity." Hence our answer to the question "What is history?" stands at present, "History is a record of the progressive development of humanity."

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But we want a more concrete answer: we want to know just what phenomena in the infinite regress and progress which we behold and call life, to select as history. Upon what specific facts and events does the development of humanity depend?

This question can be answered adequately only by a comprehension of the nature of man. Philosophic thought is the determining condition of the substance and of the methods of studying history. The laws of thought force us to the conclusion that man, as the totality of individuals, is by nature one and undivided: one mighty composite personality who differentiates himself into men that he may better help himself: an organism whose multiform members appear as men. And just as in any organism, the existence of each member is conditioned by the existence of the whole, so the existence of each man depends upon the existence of all other men. It is impossible even to think of one individual alone: our causal instinct forces us to postulate for him a father and a mother, for each of these a father and a mother, and so on to infinity. If we think, we are driven irresistibly by the laws of thought to the conception of one mighty being who perpetually is emerging, as the world of consciousness, from the dim background of the unconscious; we are driven to conceive existence as the coming into visibility of a mighty force that has willed to appear as one great organic whole, every part of which involves every other part —as man, holding in his consciousness the knowledge of his individual members, who see themselves existing in a world of nature. The one absolute power which our causal instinct impels us to postulate as lying behind the visible, wills to appear in all the richness and fullness of organic life, to throw himself forth into the world of perception as a symphony does—as an infinite number of struggling motives, each one of which has an existence of its own, yet all of which are blended into the unity of meaning that their interrelation dictates. The poverty of individual life can at no moment of time suffice the one absolute will: in the beginning and forever it appears as a mighty, multitudinous self,

whose infinite number and variety of members compensate for the limitations of each. The tragic element in each of our single lives is the terrible cost of every gain: we can possess the fullness of one side of life alone, we know the other sides only thru the pain caused by abjuring them: we become the specialist by narrowing the scope of activity, by reducing the circumference of our interests, by resolutely cutting off from our being many possible spheres: in short, each of us as partial self pays with his whole life for the partial gain he gets. But the one absolute self lives in and by means of each one of us, with full consciousness of his multiform life, gratifies thru us severally his every desire, knows in the totality of our consciousness all phases of effort and experience, finds perpetual achievement and triumph in the men and women who succeed, and yet learns the full meaning of sorrow in those who fail. The one and only self knows thru our individualities the fullest diversity, and yet gathers this diversity into the completed wholeness of one overarching, all-embracing, all-knowing consciousness, into the wholeness of one organic will, one intellect, one heart.

The true being of each of us is his conscious life in this self: in so far as we cut ourselves away from its wholeness, in so afr do we die: our fancied personality is, in its isolation, only the semblance of being, illusion, empty figment. As one with this true self in whom we live and move and have our being, our functions are twofold: as individual members, distinct from all other members in kind of service, we must contribute to its diversity of life; as organic members, identical with all other members in service as service, we must contribute to its unity of life. Hence the double task of each is to develop to the fullest his individuality, and to bring this individuality into harmonic relations with the true individuality of every other member. Thru such twofold effort the organism of spirit, which is the reality of man, receives its development.

Let us now consider by what practical means the two cardinal aims of life—the development of individuality and the ordering of self within the one universal purpose—can be realized.

The sacredness of our individuality is apparent from what has just been said: individuality is the means by which God utters himself, the way in which the fullness of his life is secured, his manner of coming to consciousness of the infinite range of his own being. The individual is the specific aspect, tone, color, in which God would see the divine life; he is the utterance of God himself at a given point of time and space. Hence individuality has the very sacredness of God, and to unfold it is the final cause of our existence.

"Unfold it?" "Let it unfold," rather, for its development is dear to the heart of being and will surely come to pass if the self is yielded as its instrument. Our task is simply to listen and to obey: the one will communicates itself directly in each personal self, it tells it what part in the total unfolding of the divine life belongs to it; its voice we call "the right." "This is the way, walk ye therein," "this is the highest, choose ye this," it calls unceasingly; it wooes us perpetually to follow it, even tho our only gain be that we have chosen the highest and have lost all besides.

The one will has a specific command for each: the right for one may not be the right for another. The very diversity of these commands is proof of their truth, for the divine utterance seeks infinite expression. The way of life, the perfect way, is a narrow path which only one can tread, and if two go abreast such companionship is proof of the suicide of the one who sacrifices the true self to imitation of the other.

To listen greatly to the self, to be the eternal ear turned toward the eternal will awaiting its faintest utterance, is the first condition of individuality. Obedience is the second condition. Together they mean a deeper life than speech can touch, one that lies far below the surface and is centered at the point where God flows into the conscious self to know himself in its life, one that regards event and circumstance only as a means of making manifest the one absolute existence at this given point of space and time.

But the organic unity of being confronts every individual with the self-evident truth that such individualization as we

have described is only one-half his task. This very individuality, separateness, distinctness, must be bound as serving-member within the unity of the organism. How? By developing individuality only within the limits of law. The inner voice, when rightly heard, never speaks as caprice, as individual whim: it is sane, rational, in harmony with all its other utterances in all other individualities, for it is the one voice of the one will finding one organic utterance in its diversity of individual notes: its command is of such nature that obedience to it secures its own perpetuation.

But such command is law, for law is constancy of relation, the kind of relation which contains within itself no self-contradiction, no principle of self-destruction. Let us throw away forever the false notion that laws can be made in any department of life, even in the so-called legislative: laws make themselves; they are the secrets of being, for they are that ordering which insures the existence of being. "Thou shalt not kill" is law, because obedience to it may be given forever, since this very obedience makes possible the conscious existence which can hear it and obey. "Thou shalt kill" is not law, since universal obedience would destroy that which can obey it.

The commands of the inner voice always stand the test of law; tho given to the individual they are universal in nature, and may be obeyed by all men thru all time, and yet leave existence undiminished and unimpaired. We perform our function of living in the wholeness of the organism, of ranging self within the limits of membership, of so ordering our individuality that our neighbor is not harmed by its development, when we restrain word and deed within the limits of law, when we do only that which everyone may do without prejudice to universal well-being. Sin begins when we make an exception in our own favor, when we do that which we cannot will that all the world should do. "Act only on that maxim which thou canst at the same time will to become a universal law" is the exact and technical statement of the golden rule. "Do unto others as ye would that they should do unto you" means "Do only that deed which thou

canst logically and rationally will that all men should do in respect to one another thru all time." Sin is the sundering of the individual from this organic interplay, from the logic of reason which can will only the consistent and reciprocally tolerant; hence individuality is the very threshold of sin if insisted upon without regard to its proportion in the whole, if it is the child of caprice instead of the issue of law.

By thus incorporating law into daily living we translate ourselves into eternal terms: eternity is not quantitative, but qualitative. The eternal is the heart of the temporal and runs in equal measure thru its chain of change and decay, for the eternal is that quality of the temporal which ranges it under law and thus secures its perpetuity. It is the eternal in each atom of being which renders possible its appearance as the transitory: the timeless is the condition and the constant companion of the time series.

Such is our conception of existence—the timeless, the unchanging, the eternal, wills to appear in the fleeting forms which we call men and women, and to organize itself thru their free-will action into such a tissue of relations as shall exemplify the working of law. The highest and most inclusive organization yet achieved by them is the state. It follows that the state is the appearance of God in concrete form, the actualization of spirit: the state is the objective manifestation of that inner law which relates all individuals as organic members of the one absolute spirit: it is the progressive incarnation of reason, the divine will in the form of a national spirit unfolding itself in the actual shape of a machinery of government. The history of the state is the course of God in the world; its epochs are the outer expression of the inner labor of the world spirit; its historic mission is the utterance of the voice of this world-spirit in its universal proclamation of truth; its citizens are its members, of whom the aim and purpose is to live in organic communion with one another, and to find the fullness and wholeness of developed being in the state.

Now that the nature of man stands before us, both in its essential being and in its outer form; now that we see that

humanity is spirit seeking manifestation as an organism, as an infinite number of fully diversified members bound within a common unity of law, we can answer our fundamental question, "What is history?" We do so by discriminating the essential lines of activity along which the development of organic humanity proceeds. The perfection of an organism depends (1) upon adequateness of form in its external organization, (2) upon the full development and diversity of its members within this formal unity. Hence for man the significant aspects of life, and therefore the substance of history, must be (1) the various forms of organization which mankind has evolved; (2) the full development of the individual within the organization.

The substance of history, the matter with which the study of history should busy itself, now stands before us as the forms of human organization and the lines of individual development. The forms of organization we know as the family, the school, the community, the church, the state, international relations, all resting upon the material basis of industrial organization. The condition of the development of individuality, of discovering and expressing one's essential being is an ethical condition—that of continually willing the right for the sake of the right; the condition of being able to distinguish the right is an intellectual condition—that of so training the mental powers that they can discriminate good from evil; the condition of willing the right is an emotional condition—that of loving righteousness and hating iniquity. It follows that the lines of individual development are to be found in such training as shall uplift and ennoble the dominant love in each, shall strengthen and sharpen his intellectual powers, shall so unfold the good will that it and he become identical.

No adequate text-books as yet exist, because the popular mind has not yet grasped what history should tell us: it is at present contented with a thin thread of narrative which relates chiefly external events in the lives of certain states. When it has recognized what the significant aspects of history are, our text-books will put before the student the gradual

development of family life from its earliest form, thru its successive stages, to its present condition; the steps by which human labor has passed from the primitive industries to its present complex organization; the ideals of education of the different ages and the different people; the aims which the communities have sought, each by means of its united strength; the progressive organization of this strength as the machinery of state; the ever-widening conception of the nature of God and of the closeness of the relation between God and man. Further, our text-books will then direct the student to the specific means for the education of the individual which each historic nation afforded—to the literature, philosophy, science, art, which trained the various sides of its citizen, and will demand that the student shall strengthen himself by toiling with the individual men whose history he studies. "What thou hast inherited from thy ancestors, earn in order to possess it" must be always the watchword of history. Culture, whether culture of the soil or culture of the man, means labor, and the law of labor governs every department of life: sweat of the brow is the price we must pay for material gain, sweat of the brain is the exacted cost of the knowledge of truth, sweat of the heart must be wrung out before it sees within itself the perfect love. Only by toiling thru again the tasks of the world can we come into possession of what it has gained, only by entering into its labors can we enter into the fruits of its labors. Personal development preeminently means personal labor, and one of the chief aims of history should be to show us the different fields for individual effort in order that the most diverse personalities may find each its fitting sphere of activity.

Our method of studying history has already disclosed itself in our discovery of the subject-matter of history. It is obviously to work with the ages along the lines of their organic and their individual efforts, to identify ourselves with humanity and relive its mighty struggle whose end is the coming into consciousness of its latent powers, the freeing itself from the fetters of the unconscious, the emerging from the realms of nothingness into the ordered freedom of knowledge and

power. In our study we must become one in spirit and in truth with the Transcendental Ego, make its aim—the realization of freedom—our aim, share its fortunes, wrestle with its limitations, agonize with it, triumph with it, and learn to know that " the wounds of spirit heal and leave no scar." We must be ready to plunge with it into the future by shaping the present more nobly than has entered into the heart of man to conceive. We must each, singly and individually, hold ourselves ready for this higher revelation, for this vision of the glorified present and future, by leading a life of holy conservation, by holding daily and hourly the whole being open to God, waiting for the inflowing of divine wisdom, the clear sight of the perfect ideal which he would have us work out. History is the appearing of God; the study of history is viewing his path of splendor thru the ages; the method of the study of history is coming into personal communion with the one divine nature that we may learn to know whither it urges, what God-appointed goals it seeks, and may learn to say and to prove " Lo I, even I, am come to do thy will."

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VII

DISCUSSIONS

THE VALUE OF LATIN AND ALGEBRA IN THE EIGHTH SCHOOL YEAR

One of the first essentials in the course of study for secondary schools is a symmetrical plan of work. The progress of the studies should be an unbroken development. Every year's work should have in view the following years. Both for the present training of the pupil and also for better work in the higher grades the present should in some degree anticipate the future. The advanced studies should be a continuation of work with which the pupil is familiar, and he should know, not only from the statement of the fact, but also from his own recognition, that new branches of study are related to the old. With each year's promotion he should feel that he cannot abandon the foundation principles which have occupied his thought. He should be impressed with the fact that the old familiar truths reach beyond his present field of labor, that they are imbedded in the very constitution of things, and that in all his later work he needs them.

To effect this result the work of the lower and the higher grades must be perfectly articulated. There must be no break in the progress. To drop suddenly the familiar branches and to begin new studies, with new forms and new terminology, without making the connection apparent, tends to divorce the work in hand from that which has been done. It is believed that the introduction of a few of the advanced studies into the eighth grade, in an elementary way, will do much to fill the gap between the upper grades of the elementary schools and the secondary schools. To be sure there should be an acknowledged promotion, a conscious advance. We do not wish to lose the advantage in quickened ambition gained in passing from the lower to the higher school. But this need not be sacrificed by anticipating a little some of the secondary studies.

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There are some manifest advantages secured by the elementary work in algebra and the beginning of Latin in the eighth grade. All the principles of mathematics should be taught to belong to one exact science. Laws laid down in arithmetic rule thruout the whole science. These principles are enunciated in different forms in the several departments of mathematical study. The aim of the true teacher of arithmetic, algebra, geometry, calculus is to develop in the pupil the faculty for mathematics. To memorize the rules of arithmetic or the formulas of algebra will not educate this faculty. Habits of correct reasoning, of exactness in statement, of vigilance that lets nothing slip away, must be inculcated. These are the first steps in the training of a mathematician. This education cannot begin too early in number-work, but as the pupil advances everything that will assist in this development must be employed. The study of algebra is well adapted to this purpose. A new interest is awakened in the pupils by giving them a clearer and wider knowledge of the relation of quantities. In arithmetic the pupil compares quantities whose values are known in numerical terms; in algebra the comparison is between the unknown as well as the known. The principles involved may be the same, but the mental discipline resulting from solving the problem both by algebraic and arithmetical methods broadens the view of the whole subject, and the pupil recognizes the principles as distinguished from the one particular form of solution. A new method of solution quickens the interest, and when the mind reverts to the arithmetical method it is with keener perception. Some pupils become wearied of arithmetic, or are discouraged, not because of indolence, but because they do not grasp the principles involved in their work. A new study under a new name is attractive and awakens new hopes. The element of interest is vitally important, and in a science which opens fields of research so fascinating and inexhaustible the interest ought never to flag if the teacher is allowed to lead his pupils to the discovery of new beauties and harmonies.

In algebra the fundamental processes of arithmetic are reviewed in a new light, and it often happens that pupils who have been considered dull in arithmetic are found doing bet-

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ter in algebra. This is not because less attention and labor are demanded in algebra; for it really requires greater accuracy and more care than are secured in arithmetic. In the mechanical work of algebra more points need to be watched, as the signs, letters, exponents, coefficients, all vary their form while preserving their significance. Close attention is demanded to follow the modifications of the coefficient of a quantity. Yet this is all within the comprehension of children of the eight grade. This close attention trains one to be careful in details, and the effect is seen in other school work. The wise teacher finds opportunity to develop the reasoning power of the child by leading him to note comparisons and contrasts between the simpler processes of the two subjects. Arithmetic should not be laid aside and forgotten, but rather illuminated by the new work.

At present the usefulness of Latin in the education of American youth is questioned. It is said by some that every year the number even of the educated who can enjoy the classic literatures is lessened by the growing custom of employing the classic languages only as training studies in all the schools and in most colleges. More and more the people are being shut in to their own literature by the disappearance from the field of the Latin and Greek literatures. Without entering into this general discussion, we may assume that Latin will not be displaced very soon from the course of study of those seeking a liberal education. Its great usefulness as a training study is admitted by all. It is believed that the introduction of the study of Latin in the eighth year will greatly assist the pupils in the mastery of the principles of grammar. Altho the experiment has not been tried quite long enough for conclusive proof therefrom, still the unanimity of the testimony thus far received from the teachers who have directed the work is remarkable.

Language study as pursued in the seventh and eighth grades, with the majority of pupils, becomes monotonous unless the pupil gains an intelligent understanding of the beauty, variety, and force of this vehicle of thought expression. English grammar as at present taught is founded upon the Latin, and the latter language gives in the forms of its in-

flection plainer illustrations of person, case, and number construction. Inevitably the child sees from the Latin construction what the English construction would be. It has been the universal experience of our teachers of language that grammar became intelligible to them thru the study of Latin. The translation of the Latin into the English is a continual process of discovery by the student. Each word must be recognized as verb, adjective, preposition, by its form and associations; its place in the sentence must be discovered by case ending, or the voice, mood, tense, number, person, definitely shown by the form. To unravel the hidden meaning of the sentence by means of these clews demands an acquaintance with construction and a mastery of grammar not so thoroly acquired by the study of English.

The pupil's English vocabulary is enriched by the Latin. The selection of the true rendering of a word among several offered by the vocabulary is in itself a fine training in the use of English. The pupil studies the various shades of expression which a word may possibly bear, and he must rely on his own judgment in determining which to use. There is no other study which yields such rich returns for an English vocabulary as the Latin affords. This is true not only because the study of root forms shows that many English words are derivatives from the Latin, but because translation requires one to draw on the thesaurus of English synonyms, idioms, and affinities in words. By this study there is cultivated as in no other way a nice discrimination in speech. While all of this cannot be accomplished fully in the eighth year, still the pupil may be introduced to such work and thus know better his mother tongue. In many ways the earlier years are the most favored time for learning a language, even for enlarging the vocabulary of our own language. The mind is more retentive; its acquisitions remain thru life, and the wider its early range of vision the broader will be the culture of the years.

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WOMEN'S CLUBS AND EDUCATION

Can there not be established some degree of interrelation between the women's organizations and those universities most vitally interested in diffusion of knowledge? That hundreds of thousands of women are banded together for mutual benefit demonstrates that they appreciate that there is strength in union—but is not every thoughtful woman who is interested in organization, and who looks below the surface of things, impressed with the loss of valuable time and energy thru the absence in those associated together of any defined and articulated plan of continuous progress?

Now that it is admitted that the condition of a progressive civilization is a system of education that is both scientific and general, is it not easily recognizable that the years devoted to the formal education must be prefaced and supplemented by systems quite as thoro and just as clearly defined as those that prevail during the school life of the individual? Of these supplementary systems the first must be initiated in the home, while the second can be carried forward only thru the stimulus afforded by an intelligent and co-operative social spirit. The act of living is in itself the most important natural educational process with which the human body has to do, and since the life process is one continuous whole, certainly the forces directing this process must form one interrupted series—the breaks marking but the passage of one state into another; and that division of labor which makes possible a co-ordination which will enable the social forces most quickly and effectively to advance the race along all lines of true development rests upon the intelligent co-operation of all those who hope to influence public opinion. But the application of the principles of physical science to all branches of learning and to all departments of practical life ordains that the individual or organization that seeks to influence the progress of affairs must do so thru the definite, even technical, knowledge of the principles embodied in the particular work they hope to accomplish.

But to map out even roughly a plan by which the interests of women's organizations may be more closely defined, the

energy more specifically focused, it is necessary to discover a common bond between them and to trace a chain of connection thru which all may be linked together—to discover the bond is not difficult, and to establish a connecting thread ought not to be impossible—for that object of the club movement which is clearly discernible in every one of the prominent organizations which owe their origin to women can be expressed in a word: it is the *child*. The sum of their endeavor is an effort—crude perhaps, and often but poorly directed—on the part of the present generation to discharge the obligation that they feel they owe the rising generation; that is, there is manifested the feeling that the present civilization must put into play the forces that will make directly for the advancement of all the true interests of posterity. But as art which arises in the instinct of the race reaches its highest expression only under the fostering care of its daughter science, who analyzes and formulates the principles upon which the mother worked: so the intuitive, instructive maternity which has to the present time manifested itself almost exclusively thru feeling must now develop that power of introspective analysis and generalization that can alone enable the mother of the race wisely to direct the love and sympathy of which she is so fully possessed.

Now child-study is a pretty phrase to conjure with, but since the child has come to be recognized as the epitome of the race, it follows that this line of investigation is one of the most complex that the whole field of science has to offer, and superficial study supplemented by prejudiced observation will never, thru time or eternity, attain even the alphabet of that psychology upon the knowledge of which the proper study of the child is based.

And with this in view, why cannot the Mothers' Congress appoint and assist some three or four young women who have demonstrated some taste for the work to study for two years, one at Cornell and another at Columbia, and still another at the University of Chicago? At annual meetings these young women would be able to present the different divisions and to explain the general bearing of this line of investigation and research, and above all they could, by

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means of a carefully arranged prospectus, direct a course of home study that would enable even the busy woman to get some definite idea of the real principles involved in the proper study of the child.

Since the Daughters of the Revolution are especially interested in the study of history, seeking to determine those lines of action that make for character, will they not establish two or three scholarships which will enable some of their number who have already evinced some degree of talent to pursue the study of history along the lines of philosophical and anthropological development? The philosophy of history and the physical development of the race are so related that they cannot be separated, and the beautiful theory of the culture epochs, with its limitless suggestions of race potentiality, could be most effectively exploited by vigorous young minds under stimulus of a great national organization which has for its purpose the preservation and advancement of all that tends to develop the nation and the race.

The Woman's Suffrage Association, with its immense store of valuable and exact information concerning the features of government and the status of the citizen thruout the civilized world, could by the same means—namely, a scientific yet popular exposition of the subject—trace for an inquiring and intelligent public the philosophy of the development of government and would become, in time, thru this means a powerful factor in the establishment of an international and universal citizenship, the end that all must have in view who accept, even intellectually, the tenet of the brotherhood of man.

That the ultimate success of all forms of constitutional government rests with the development of a citizenship that will represent a high average of thought and culture has become a platitude.

The acquisition of knowledge may rest with the few and the responsibility for the technical training undoubtedly lies with the universities; but the diffusion of knowledge is not possible except thru the good will and hearty co-operation of the body of the people. It is not enough that we put men of ability in charge of well-equipped educational depart-

ments. The success of the system of universal education, upon the establishment of which the well-being of our republic rests, does not depend upon professor or teacher, but upon the public, and until the general public, that is the body of the people, becomes informed of the purpose and plan of the system of public instruction it is not possible that the work be either rapid or thoro. The kindergarten, the primary, secondary, and high school, the normal and university training must stand as one organic whole and must be recognized as such by those whom it is designed to serve; and furthermore, the years of the primal school life and the after life of the politico-social individual must be recognized as simply divisions of one continuous process; and the fact that the General Federation of Women's Clubs includes organizations that vary in purpose thro a range almost co-extensive with human endeavor makes of it the most appropriate medium for transmission of the gospel of education: but that the organization represents numbers is not of itself a guarantee of its ability to do this work; none but a thoroly trained, representative, university graduate can expound such a gospel as will tend to the modification and co-ordination of the forces of the developing organism. And none other than one who has received thoro and liberal technical training can make clear the ultimate purpose of education or can set forth the methods and system by which it is hoped the ends in view may be most quickly accomplished. But while the exploitation of the new spirit in education is possible only thro those especially fitted for the work, why may not these very individuals be drawn from the body of this organization, the membership of which represents such diverse interests, and in turn the organization itself, together with its collateral branches is, as has been said, perhaps the only organization that can quickly and thoroly prepare the different sections for some immediate and concerted action looking to the diffusion of that knowledge which will modify existing conditions and advance the evolution of a rational and self-conscious society.

That the individual is the unit or cell of the social organism, is at the present writing accepted rather as a happy con-

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ceit than as a scientific formula, but at least all will admit that "from the lowest living forms upward, the degree of development is marked by the degree in which the several parts constitute a co-operative assemblage"—each organ, as differentiation proceeds, functioning for the whole organism; a principle susceptible of ever more obvious application where an organization is substituted for the individual and where the co-ordination looks to future and indirect, rather than to immediate ends. Hence the success, even the perpetuity, of women's organization is conditioned upon their power of co-ordination. Social progress requires that the social forces be wisely directed, and a progress that will be rapid and effective if possible only thru the conservation, transmutation, and wise direction of social energy.

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THE TRAINING OF THE TEACHER

The article in the December (1898) Review by Dr. William H. Payne on "The Training of Teachers" contains some assertions which can hardly pass unchallenged. Permit me to call attention to a single point.

On page 475 the writer says, "Except under extraordinary conditions an experimental school cannot give to students what may be called an experience in the honest sense of this term, much less an amount of practice equivalent to an apprenticeship in teaching."

May I inquire if it is not the main business of a normal school to afford just these "extraordinary conditions?"

The writer defines the minimum amount of practice teaching which can be accepted as "ten weeks or fifty days of five hours each," and later he says, "I know of no normal school provided with a supplementary school large enough to furnish its pupils with enough practice work to constitute a real experience in teaching."

This last statement will be read by many with surprise. In at least two normal schools in Connecticut no student who has not taught and governed (under supervision) a school

in the training department for a period of twenty weeks can receive a diploma. Other States should be heard from, for Connecticut does not stand alone in this matter.

There is one more point closely related to the preceding. The writer answers the question "Can a practice school be a good school," by assuming the conditions under which a practice school is to be conducted, and then asserting that a school so conditioned "cannot be worthy of imitation."

In a well-organized practice school the following conditions will exist:

1. The pupil-teacher will be carefully prepared for her work before being given charge of a school.

2. The school assigned to a pupil teacher will be small.

3. The teacher will remain with a class for a considerable period. (Pupils suffer a change of teachers twice a year in all cities where promotions are semi-annual and where departmental teaching is in vogue, and in high schools the change of teachers is still more frequent.)

4. Supervision will be so close that mistakes will be sooner discovered than in an ordinary public school.

5. The school in addition to competent supervision has the benefit of all the fresh enthusiasm of the earnest beginner. This goes far to offset the disadvantages resulting from inexperience.

6. Inefficiency in a pupil-teacher is not long tolerated.

These conditions actually exist in some training schools, and under these conditions the schools are not inferior to the better class of public schools.

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VIII

REVIEWS

English national education: a sketch of the rise of public elementary schools in England—By H. HOLMAN, M. A. London: Blackie & Son, 1898. 256 p. 2s. 6d.

The educational systems of Great Britain and Ireland—By GRAHAM BALFOUR, M. A. New York: Oxford University Press, 1898. 320 p. 7s. 6d.

These are the two most hopeful books on education that have come from England in many a day. I use the word hopeful advisedly, for education in Great Britain has no future before it that is at all commensurate with its possibilities and with the nation's needs, unless the governing class can be speedily converted to the belief that a broad, generous, non-sectarian, closely articulated system of public education, freed so far as possible from the debasing tyranny of examinations, is the most important and the most pressing want of the British people. It outranks such questions as another penny added to the income tax, old age pensions, naval expansion, the partition of China, Fashoda, and the rest. Over five years ago the London *Times* expressed the opinion, in referring to Dr. Arnold, that until about 1830 no such thing existed in England as either an ideal of public education or a public conscience in respect to anything that related to schools. To-day that ideal and that conscience are the possession of but a small group of men and women, not of the nation. To implant that ideal and to stimulate that conscience are the tasks that lie immediately before those who propose to develop public opinion in respect to public education.

The books by Mr. Holman and by Mr. Balfour are powerful weapons in the hands of the right leaders. They give an accurate view of existing educational agencies and conditions; they trace their history step by step. They make it clear how much has had to be yielded to stubborn ignorance, how much to religious intolerance. They indicate clearly what steps ought to be taken at once.

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Mr. Holman's book is narrower in its scope and less statistical and official in its method than Mr. Balfour's. It is agreeably written, both sarcasm and humor being permitted to point its arguments and to adorn its historical tales. It opens with a sketch of the reign of the voluntary system, and then follows a chapter on the "Days of doles." The establishment and development of the Committee of Council on Education, the introduction of a semi-state system of school support and control, "Codes and cram"—"All that is mechanical and mean in our national system of education reaches its very acme at this stage of its history" (p. 161)—the partial reign of law, and a summary and outlook make up the remainder of an extremely interesting book. Mr. Holman's concluding paragraph tells the whole story better than I have ever seen it told before: "We have all the raw material out of which to make a splendid system of schools. There remain but two things to be done to make practically perfect our system of national education, viz., to make it national, and to make it educational" (p. 251). No one who reads Mr. Holman's book thru will be likely to dispute this trenchant conclusion. He will also have received many hints as to how English national education is to be made both national and educational.

Mr. Balfour's book supplements that by Mr. Holman. It is a carefully arranged catalog of the existing educational agencies, higher and lower, in Great Britain, and its data and statistics have been found to be absolutely accurate at every point at which I have tested them. It is an invaluable book, and makes available a great mass of organized material hitherto only to be gotten at by plunging into innumerable blue books and calendars. N. M. B.

The study of the child: A brief treatise on the psychology of the child, with suggestions for teachers, students, and parents. By A. R. TAYLOR (International Education Series). New York: D. Appleton & Co., 1898. pp. xliii, 215. Price $1.25.

This is hardly, as the title would suggest, a work on genetic psychology, but rather a didactic treatise of the faculty-psychology type, and intended for prospective teachers.

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The author, however, perceives clearly the difference between the child and the adult mind, and keeping the former constantly in the front, he has prepared a very useful handbook of educational psychology. More than a fourth of the space of the book is devoted to the presentation of the senses; and altho there is little or nothing said concerning their natural history, there are some practical suggestions of ways and means of determining sense defects, and some wholesome advice to inexperienced and inconsiderate teachers and parents. Very few persons realize, as the author points out, the great variability, for example, of the temperature-sense, and that some children are naturally warmer-blooded and require less clothing than children of greater acuteness of thermal sensibility.

Several of the succeeding chapters, and notably those on the intellect and its functions, are of the faculty-psychology order, and hardly add to the value of a book of this class. The discussions of motor control, stages of growth, and the fatigue point do not give evidence of familiarity with the wealth of periodical literature on these topics in recent numbers of the EDUCATIONAL REVIEW, *Pedagogical seminary*, *Psychological review*, and *American journal of psychology*.

Several question marks suggest themselves in his application of Krohn's test of " about forty thousand children " with reference to the period of the day when memory is most retentive. Figures are given which show that when the subjects were taken indifferently, during the first school hour of the day the average retentive power of the pupils was 89 per cent.; for the last hour of the morning 63 per cent.; for the first hour of the afternoon 75 per cent., and for the last hour of the afternoon 70 per cent. When the order of the subjects was reading, grammar, arithmetic, geography, and history, the average was 89 per cent., 58 per cent., 68 per cent., and 76 per cent. respectively. When the order was arithmetic, elementary science, reading, drawing, geography, and history the average was 89 per cent., 79 per cent., 82 per cent., and 86 per cent. respectively. This last arrangement of studies, notes Mr. Taylor, increases the retentive power of the average pupil over that of the hit-or-miss program 16 per

cent. for the third hour, 7 per cent. for the fourth, and 9 per cent. for the last hour of the day. One is puzzled, however, to understand these remainders,—unless they be typographical errors,—and to know how comparison can be made with groups containing such differing subjects—grammar appearing, for example, in the first group only and drawing and elementary science in the second.

The chapters on manners and morals and normals and abnormals, while admittedly meager, are generous in tone and helpful in nature. Mr. Taylor very properly repudiates the dogma of the moral perversity of the infant, and maintains that the child's primary impulses are to be true; and that temptation to be untrue comes when he wishes to shield himself against ridicule or punishment or to astonish somebody by a big story. The chapter on children's instincts and plays is brief, but there are in it some suggestive hints on the training of the social sense of the child.

The bibliography at the close of the book is of a very miscellaneous character; and altho it has an analysis of contents, the book has no index. As already noted, altho in no strict sense a contribution to the literature of the psychology of childhood, Mr. Taylor's sympathetic view of childhood, together with the abundance of helpful advice to young teachers, entitles his book to superior rank among briefer works on educational psychology.

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The pupil as an individual. The Conover promotion blank—By W. F. CONOVER, Principal of the B Street School, San Diego, Cal. Boston: Educational Publishing Co.

Readers of the EDUCATIONAL REVIEW will recall the Frye Mind Charts, which originated in San Bernardino, Cal., in 1891, when their author was superintendent of schools at that place. Mr. Frye proposed to make mental power the test for promotion and his system of records required close and careful study of the individual child by the teacher. Mr. Conover's Promotion Blank is similar, but simpler.

In attempts of this kind it would seem to be necessary to

meet certain requirements, viz., they should not carry the teacher into problems foreign to her work or their purpose; they should be simple of execution; they should deal with the essentials among the conditions determining fitness for promotion. Tested by these requirements, Mr. Conover's plan is fairly successful. The problem is not an easy one to solve; the great majority of teachers who keep any kind of records at all probably still content themselves with percentile estimates of what Spencer would call "intellectual fat," rather than of "intellectual muscle." Those whose efforts are making for the recognition of the latter, therefore, are welcome; Mr. Conover is among them.

The author proceeds from the thought that "the true province of education is not to deposit, but to develop." It is not possible to develop without a knowledge of the individual. "As one well says, 'Surely it is time to act on the principle that it is necessary to know an individual before you try to instruct or govern him.'" The blank is intended to serve two purposes: (1) To furnish a record of pupils for the information of a new teacher when promotions are made or whenever a teacher is changed; (2) it is suggestive to the teacher in the systematic study of pupils. Copies of the blank are to be in the hands of the teacher early in the term, as a guide, so that maker as well as recipient of the record may be benefited. Blanks are to be sent in as classes are promoted, duplicates being filed with the principal or the superintendent.

The blank is prepared on large sheets of paper, twelve by nineteen inches, folded once. The front and back pages of the folded form contain careful but brief explanations to the teacher of signs, terms, and use. The blank is arranged (pupils' names in column, and records extending to the right, on the inside of the folded form) so as to facilitate comparative study of pupils, and of relations of subjects. The record of each pupil calls for entries as to the following points: age, promotion from —— to ——, books read, records in nature study, reading, language, spelling, arithmetic, drawing, geography, history, oral and written expression, perception, imagination, memory, reasoning, application, special strength,

special weakness, strongest interest, defects of sight or hearing, health, temperament, remarks. A special form, somewhat modified from the above, is furnished for high schools. Greatest strength, weakness and interest, health and temperament are to be indicated by the single word most nearly describing the condition. A dash indicates presence of sight or hearing defect. Everywhere else, *g*, *f*, and *p* are used to indicate *good*, *fair*, and *poor* respectively. Some classification is given the different points for record, but it is not essential, and certainly not logically consistent. Almost no division is complete—certainly not the list of studies, forms of expression, or mental powers. But this is due to the fact that the author is endeavoring to give himself some practical limitation. Still one would like to see certain other very essential records *possible* at least. Condition of throat, nose, and breathing is as important as sight or hearing. And who can decide definitely as to powers of perception, imagination, etc., who does not first determine whether he possibly has to do with one or another of the sense-types? But the points covered by the record are of unquestioned value. Their selection and arrangement are good, the result of the author's earnest study, experience, and advising with experienced educators.

One criticism that will incontestably be made upon the filled blanks is that they express to the successive teachers who receive them nothing but a general almost wholly intellectual and physical analysis. Character—that which the new teacher has actually to meet and to learn—is not in them. Perhaps this latter is not to be expected of records of this kind. Yet it is implied in a measure in the purpose which the author claims had called them forth.

Again, the question might very pertinently be asked of this, as indeed of any, scheme of recording pupils' capacity and progress: "After having said some twenty-three things *in general* concerning the individual child (*i. e.*, *via* the signs for good, fair, poor, etc., with reference to the various points) how near has one actually gotten to a knowledge of individuality?" And Mr. Conover might very properly reply: "Nearness to the individual does not depend upon the *re-*

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cording of these things in general at all, but on the process of *getting ready* to record them properly and faithfully. My chart suggests first a duty to the teacher to be performed some months hence, *i. e.*, the passing of certain reliable judgments that will influence others in the end; then, certain lines and directions for observation between now and then; finally, it stimulates by these means the sympathetic contact of pupil and teacher thruout the term"—in all of which is a great deal of truth.

In conclusion we would, however, put these questions: Tho the sheet is large, since it is to contain the names of a number of pupils, space for records is very limited. Would it not be possible to so arrange them as to make one sheet do for one pupil for the entire course, or for a number of years, thus securing greater space for records and added ease in surveying the successive records of each child? Finally, —supposing an affirmative answer to the preceding question,—would it not then be well to let these records be less general, including something more than the broadest generalizations touching the individual and expressed by signs, since teachers must necessarily generalize on the basis of very personal and hence different standards? Else will it be difficult to make the record in any way a true expression of character. How otherwise can sentiment, moral fiber, or emotional refinement, the child's most vital features, be suggested to his successive teachers?

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NOTES ON NEW BOOKS

Mention of books in this place does not preclude extended critical notice hereafter

Vice Provost Cornish of Eton College has edited a *Concise dictionary of Greek and Roman antiquities* that is based on Sir William Smith's work, but with the addition of the main results of modern classical scholarship (New York: Henry Holt & Co., 1898. 830 p. $4.00).——Professor Gudeman's *Latin literature of the Empire*, Part I, is a carefully made selection of the best prose of the post-Augustan period.

Velleius Paterculus, Curtius Rufus, Seneca, the two Plinys, Quintilian, Tacitus, Suetonius, Ammianus Marcellinus, and Boethius are the chief writers represented (New York: Harper & Brothers, 1898. 578 p. $2.00).——A school edition of Professor Gildersleeve's admirable *Latin grammar* has just come from the press (New York: University Publishing Co., 1898. 328 p. $1.00).——Mrs. Wilson's *History reader for elementary schools* (New York: The Macmillan Company, 1898. 403 p. 60 cents)—like the new issue in King's Geographical Readers, *Northern Europe* (Boston: Lee & Shepard, 1898. 353 p. 40 cents)—is made in response to the demand for more "information" in the lower grades.——Mr. Ringwalt's *Modern American oratory* is a distinctly successful book. The essay on the theory of oratory is capitally written and is clear and convincing. The selections are out of the beaten track, and with the exception of those by Mr. Depew and the late Henry W. Grady could not be improved upon (New York: Henry Holt & Co., 1898. 334 p. $1.00).—— Mr. Saintsbury's *Short history of English literature* is not short, and combines the author's praiseworthy industry with his often most annoyingly narrow view-point (New York: The Macmillan Company, 1898. 819 p. $1.50).——A new edition of Smith's *Old English grammar* (Boston: Allyn & Bacon, 1898. 193 p. $1.00) and Baskervill and Harrison's *Anglo-Saxon prose reader* (New York: A. S. Barnes & Co., 1898. 176 p. $1.20) are the latest additions to the rapidly growing collection of books in their field.——Professor Thomson's Princeton lectures on the *Discharge of electricity through gases*, somewhat revised and enlarged, are now issued in permanent form (New York: Charles Scribner's Sons, 1898. 203 p. $1.00).——Two new books on the calculus are on our table—*Infinitesimal analysis*, by Professor Smith of Tulane (New York: The Macmillan Company, 1898. 352 p. $3.25) and *Differential and integral calculus*, by Professor Taylor of Colgate (Boston: Ginn & Co., 1898. 269 p. $1.60).——The *Science of finance*, by Professor Henry Carter Adams of the University of Michigan, is a much-needed contribution to text-book literature. It is a systematic, thorough, and complete exposition of the principles governing public revenue

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and expenditure (New York: Henry Holt & Co., 1898. 573 p. $3.00).——Giddings's *Elements of sociology* is a new and simple outline, for school and college use, of the structure of human sociology (New York: The Macmillan Company, 1898. 353 p. $1.10).——If English teachers who are in search of some basis for their educational practice and for its improvement proceed to attempt to assimilate an uncritical Herbartianism, they will surely come to grief. That is the first reflection induced by looking over Miss Dodd's *Introduction to the Herbartian principles of teaching* (New York: The Macmillan Company, 1898. 198 p. $1.10).——The modern language series that bears the name of Sigmon M. Stern on the title page is so favorably known that it is almost superfluous to commend the new *Grammaire française* by Méras and Stern (New York: Henry Holt & Co., 1898. 312 p. $1.00).——*The magic nuts*, by Mrs. Molesworth (194 p. $1.25), *De Soto and his men in the land of Florida*, by Grace King (326 p. $1.50), and *Buccaneers and pirates of our coasts*, by Frank R. Stockton (330 p. $1.50)—all published by the Macmillan Company—are useful for supplementary reading-books——*California plants in their homes*, by Alice Merritt Davidson of Clifton, Ariz., is the title of a new botanical reader for children (Los Angeles, Cal.: Baumgardt & Co., 1898. 360 p. $1.50).——The latest addition to the extremely useful series of Translations and Reprints from the Orginal Sources of European History is Dr. Fairley's careful edition of the *Monumentum Ancyranum* (Philadelphia: University of Pennsylvania, 1898. 91 p. $1.00). ——The advanced and minutely detailed *Grammar of New Testament Greek*, by Professor Blass of Halle, has been rendered into English by Henry S. Thackeray (London: Macmillan & Co., Lim., 1898. 340 p. $4.50).——The interesting and influential personality of Edward Thring of Uppingham is admirably unfolded in his *Life and letters*, edited by Principal Parkin of Upper Canada College (London: Macmillan & Co., Lim., 1898. 321, 340 p. $7.00).——John Caird, late principal of the University of Glasgow, was one of the strongest and clearest thinkers of our time, and his volume of *University addresses* is very welcome (New York: The

Macmillan Company, 1898. 383 p. $2.25.——Clark's *How to teach reading in the public schools* is a more than usually successful book of its type. It is clear, a trifle prolix, but practical (Chicago: Scott, Foresman & Co., 1898. 296 p. $1.00).——The volume entitled *Rise and growth of American politics*, by Henry J. Ford, is an excellent sketch of the philosophy of our public development (New York: The Macmillan Company, 1898. 409 p. $1.50).——Professor Grosvenor of Amherst College has translated, revised, and added to Duruy's well-known *General history of the world*. The additions consist of an introduction and a summary of the events since 1848. The maps are numerous and helpful (New York: T. Y. Crowell & Co., 1898. 744 p. $2.00).——M. Brunetière's *Manual of the history of French literature*, which is an ideal book of its kind and which should be read in the original to be fully appreciated, has been translated by Ralph Derechef (New York: T. Y. Crowell & Co., 1898. 569 p. $2.00).——A new edition, with additions, of Professor Edward Channing's *Students' history of the United States*, is very welcome (New York: The Macmillan Company, 1898. 615 p. $1.40).——Mr. W. W. Willoughby of the Johns Hopkins University is the author of a new and most excellent book entitled *Rights and duties of American citizenship* (New York: American Book Co., 1898. 336 p. $1.00).——An admirably clear and simple book for beginners in zoölogy is Beddard's *Elementary zoölogy* (New York: Longmans, Green & Co., 1898. 280 p. $1.00).——The first two volumes in the valuable series to be known as Harper's *Scientific Memoirs* are papers by Gay-Lussac, Joule, and Thomson on *Free expansion of gases*, translated by Professor Ames of Johns Hopkins University, and memoirs on *Prismatic and diffractive spectra* by von Fraunhofer, also translated and edited by Professor Ames (New York: Harper & Brothers, 1898. 106 p., 68 p. 75 cents, 60 cents).——*Ideals and programs* is the title of a thoroly sensible and practical series of talks to teachers by Miss Gowdy of the Washington School, Minneapolis (Syracuse, N. Y.: C. W. Bardeen, 1898. 102 p. 75 cents).

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EXTRACTS FROM EDUCATIONAL REPORTS

Superintendent E. P. Seaver, Boston, Mass. . . . Report for 1898

The intellectual life of teachers—The deadening influence of routine in teaching is well known; and the constant temptation which besets all teachers to let the daily routine work of the schoolroom absorb their whole energy is too familiar to need description. The virtue of the good teacher consists precisely in resisting and overcoming this temptation. In this struggle the teacher has strong allies ready to give aid. One of these is the altruistic impulse, the personal interest that may be taken in the formation of each pupil's mind and character through the influence of teaching. A teacher wholly absorbed in his own intellectual interests, as apart from those of his pupils, is depriving himself of his very strongest ally in the field of motives; namely, a personal interest in the pupils committed to his care. Said a college professor, "What can be more deadening to all intellectual interest than to read year after year the same classic author with the successive classes of students? I plead for a frequent change of authors." Another professor replied, "My chief intellectual interest lies not in the classic author read, but in the minds and characters of each new class of young men coming under my instruction. If I may so teach as to awaken and sustain intellectual life in them, my own gains in vigor thereby, and I care very little what particular authors I use for the purpose." The contrast between the two professors is clear. The one was merely a scholar, the other was a teacher.

But no teacher can afford to dispense with good scholarship; for, without it he fails in his chief desire, which is to be of the highest service to his pupils. This suggests a second strong ally of the teacher's in his struggle against intellectual stagnation; namely, a desire to improve his own intellectual equipment. "Hence it is," as I remarked last year, "a good test of the intellectual condition of the schools to take an account of the studies the teachers are carrying on for themselves." Such an account was taken last year and has been taken again this year. No one can read the details

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of these accounts without being deeply impressed with the conviction that the great majority of the teachers in this city are intellectually very much alive. They show it by the extent and variety of their intellectual pursuits while out of school. I wish to repudiate, with all the emphasis that my knowledge of the facts can give, the general charge, sometimes made by ill-informed persons, that our teachers as a body are lacking in culture, intelligence, and scholarly interest. That there are exceptional cases in which such a charge may be sustained is not denied; nor is it forgotten how prone people are to seize upon such exceptional cases as proofs of a general charge. But the more favorable opinion is the right one; and it is wrong to permit our fair view of the whole to be obscured unduly by the few unfavorable instances.

So far have the efforts of teachers to improve themselves been carried in many instances that I feel bound to utter a word of caution, which I trust will be taken by those, and those only, who need it. There is such a thing as a teacher's overdoing the work of self-improvement by out-of-school study. Especially is it possible to spend too much time in attending miscellaneous courses of lectures or in desultory reading. It is better to spend less time in a more intensive study of one or two subjects than to spend much more time roving aimlessly over a broader field. The lecture habit and the desultory reading habit are not in themselves the sources of vigorous intellectual life. One good course of lectures accompanied by a carefully selected course of reading on the topics of the lectures will give much more satisfactory results than are likely to be obtained in any other way. "The much belectured teachers of Boston" is the expression of a bright teacher who with her companions had been attending three or four lectures a week, and had begun to doubt the efficacy of such intellectual stimulus when administered in such abundance. I quite agree with her in her doubts, and in believing that a more concentrated and sustained attention to one subject at a time would be better than so much scattered and superficial work.

Now I hope that no word that has been said will be construed as an ungracious comment on the efforts of public-

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spirited people to furnish the teachers, through lectures and otherwise, with the means of intellectual improvement. All these efforts are most thankfully appreciated. My sole purpose is to counsel teachers to use moderation and discrimination in making their selection from the abundance of opportunities thus spread before them. The serious difficulty in exhorting teachers generally to make use of such opportunities is that the exhortation stirs those who need no stirring, but fails to reach those who do.

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IX

EDITORIAL

Mayor Van Wyck's Views on School Boards

The extraordinary man who rules the city of New York as Richard Croker's Mask has lately expressed some more of his invaluable opinions concerning schools and their government. He described himself as searching for men who, as members of the board of education, could give their entire time to the schools. We can hardly imagine a worse ideal. Teachers, principals, superintendents, are supposed to be trained and competent members of a profession, and to devote their entire time to the schools; but the proper function of a board of education is far different. It studies the needs of the schools, of course, but as a lay body it must in last resort depend upon the advice and information given by professional men and women. A far more important duty, however, is to represent the best public opinion and the highest public interest in passing upon proposals made by the professional directors of school work. This is the legitimate function of a lay body in dealing with professional concerns; but to probe and pry about in an amateurish way, to criticise what is only partially understood, and to attempt to influence and control what should be unbiased professional opinions and recommendations, are ways of impeding, not forwarding, school work. No, Mr. Van Wyck, do not turn loose upon the schools men with nothing else to do; find busy men, representative men of affairs, accustomed to dealing promptly and decisively with important and far-reaching purposes, men of clear views and high intelligence, and in a few hours each month they will be able to perform all the legitimate legislative duties of a board of education. If the superintendents are believed to be incompetent, turn them out; but do not interfere with the independence of their work so long as they are responsible officers.

Another of Mayor Van Wyck's sapient suggestions would,

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if carried out, be so productive of harmony, order, and good discipline in the teaching force, and would so completely divorce the schools from politics, that we submit it without extended comment. It was to the effect that some principals and teachers ought to be appointed to the board of education, with the right to return to similar positions, without prejudice, when their terms of office were ended. Whew!

Tammany in the Saddle

That fine old educational mastodon, Commissioner Little, is Tammany's president of Tammany's new school board for the boroughs of Manhattan and the Bronx. He is supported by two other representative antediluvians, Commissioners Livingston and Moriarty; but some of the other men named by Mayor Van Wyck belong to a higher and better order of citizenship. In consequence, we predict an early rift in Tammany's pet lute; for Commissioners O'Brien, Van Hoesen, Kittel, and Davis are not men who can be held to a reactionary policy indefinitely, and they are not so easily impressed as are some others by the " cohesive power of public plunder." Superintendent Jasper, who revels in manipulation by indirection and who is an adept at it, will now resume some of his lost prominence and will speak to the world through Commissioner Little. Meanwhile, the order of the day will be attacks on high schools and higher education generally, on " fads," on " imported " teachers, and other modern devices for helping children on in the world.

The New York Education Law

The very careful codification and revision of the educational laws of New York which the Statutory Revision Commissioners have submitted to the legislature is at once a source of pleasure and of disappointment. It is a source of pleasure in so far as it brings together in one consistent, well-arranged law all of the provisions controlling the educational activity of the State. The language is accurate and uniform, and the work of codification and revision has been most intelligently done. Among the distinct gains of the proposed law are the definitions. For example:

The public schools shall provide instruction in the English language in the following subjects:

1. Reading, writing, spelling, arithmetic, English grammar and composition, geography, drawing, physiology and hygiene, American history, civil government, and good behavior.

2. Good morals; and for this purpose the Bible may be read either as a part of the school exercises or otherwise. Such reading may be from any version, but must be without note or comment.

3. In such other subjects as may be prescribed or permitted by the school authorities, the superintendent, or by law (§ 5).

"Secondary" refers to the four years of instruction between elementary school and college. "Secondary school" includes any school or department under visitation of the University which gives one or more years of secondary instruction.

"Colleges" are chartered institutions requiring for admission not less than a four-year high-school or academic

[these four words = secondary]

course or its equivalent, and having adequate libraries, museums, laboratories, and other equipment and facilities, and at least six professors or their equivalent

[a dark and dubious phrase],

who give their entire time to one or more registered courses in the liberal arts and sciences, leading to a bachelor's degree.

"Universities" are endowed and chartered institutions with examining and degree-conferring powers, which give courses leading to higher degrees in the general or philosophic faculty and in not less than three special schools

[this would rule out Johns Hopkins and Chicago if they were in New York State],

and which have faculties, libraries, museums, laboratories and other equipment and facilities adequate for specialized instruction of students prepared by previous college training, and for conserving, advancing, and disseminating knowledge of the liberal arts and sciences by research and publication (§ 600).

On the other hand, the disappointment is natural and great that this golden opportunity is let pass without the consolidation of the two educational departments in one, to the end that the existing and wholly unnecessary friction, duplication of effort and expenditure, and complexity may be done away with. The district system is not abolished, as it should be; normal-school diplomas are still life licenses to teach, as they should not be; the superintendent is still to be chosen by the legislature, and therefore primarily on political grounds; the commissioners are not required to have an adequate educational qualification and are not properly paid; the crying

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need of the rural schools for more and better supervision is not met.

Our own judgment is that an attempt should be made, even if unsuccessful, to amend the bill in each of the particulars named. The first point mentioned is especially important. Many persons throughout the State, deeply interested in the schools, are fast losing patience at the inability of the two educational departments to come together on a common educational platform, and unless some progress in unifying the work of the department of public instruction and that of the university is made soon, nothing is more certain than that Governor Roosevelt and the legislature will take the matter out of the hands of the officers of those departments, and effect the needed reforms over their heads. This is said with the kindest and friendliest feelings toward Secretary Dewey and Superintendent Skinner, whose duty it is to move in the matter, and who must either move soon or else see movement go on without them.

Modern Language Teaching

The Committee of Twelve appointed two years ago by the Modern Language Association, to outline courses of secondary instruction in French and German and to make recommendations concerning methods of teaching, have completed their report, which will shortly be published by the Bureau of Education.

The report is a comprehensive and painstaking document of great value. It contains about twenty-five thousand words and is divided into thirteen sections.

Section 1 is preliminary; it describes what the committee have done and how they approached the problem. Section 2 deals with the value of the modern languages in secondary instruction. Section 3 contains a critical review of methods of teaching (the grammar method, the natural method, the psychological method, the phonetic method, and the reading method). Section 4 deals with method as related to the preparation of teachers; section 5 with the question of French and German in grades below the secondary school. In section 6 the committee propose that there be recognized for

the country at large three grades of preparatory instruction in French and German, to be known as the elementary, the intermediate, and the advanced, and corresponding normally to courses of two, three, and four years. The grounds of this proposal are explained at length. Section 7 takes up the elementary course in German, indicating what the aim of the instruction should be, what work should be done, and how it should be done. Extended suggestions to the teacher deal with the teaching of pronunciation, colloquial practice, grammar, the choice of reading matter, sight-reading, and with nearly every other important practical question that arises in connection with the teaching of beginners. Sections 8–12 do the same thing for the intermediate and advanced course in German and for the proposed three courses in French. Section 13 is devoted to model examination-papers for admission to college. The report contains numerous footnotes giving bibliographies and references to recent educational discussions.

There seems to be no reason to doubt that the report will be accepted as authoritative and will rank with the best American and foreign contributions to educational theory and practice. The committee which did this excellent piece of work consisted of the following men:

Calvin Thomas, Professor of Germanic Languages, Columbia University, *chairman*; E. H. Babbitt, Instructor in Germanic Languages, Columbia University, *secretary*; B. L. Bowen, Professor of Romance Languages, Ohio State University; H. C. G. Brandt, Professor of German, Hamilton College; W. H. Carruth, Professor of German, University of Kansas; S. W. Cutting, Associate Professor of German, University of Chicago; A. M. Elliott, Professor of Romance Languages, Johns Hopkins University; C. H. Grandgent, Professor of Romance Languages, Harvard University; G. A. Hench, Professor of Germanic Languages, University of Michigan; Hugo A. Rennert, Professor of Romance Languages, University of Pennsylvania; Wm. B. Snow, Teacher of French, English High School, Boston, Mass.; B. W. Wells, Professor of Modern Languages, University of the South.

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Degrees Conferred Here!

The Commissioner of Education in his report for 1896--97 furnishes statistics of 35 "universities and colleges for men and for both sexes" in the State of Ohio. We are grieved not to find upon this list the admirable and enterprising Mount Hope College, situated in, by, near, or upon the active metropolis of Rogers, Columbiana County, Ohio. We are grieved because this institution is, we are assured, "free from debt" and "chartered to confer any and all degrees conferred by any college in the State of Ohio." To take a degree from an institution that is free from debt is a sufficiently novel experience to attract many ambitious youths, but when one appreciates that here at any rate "general education, personal standing, and successful experience will have much to do in the granting of advanced degrees," and that the little that remains will be done by a trifling fee, it is obvious that in Mount Hope College at least we have a world-university in which the faculty are not overworked. This contribution to education should, of itself, have secured for Mount Hope College, of Rogers, Ohio, a place on the Commissioner of Education's list. We are clearly of the opinion that Dr. Harris has overlooked not only one of the duties, but one of the privileges, of his high office.

We are impressed, too, with the opportunity here afforded for traveling salesmen, political orators, and itinerant musicians to be appropriately decorated with any or all of the degrees of B. S., Ph. B., A. B., M. S., Ph. M., A. M., Ph. D., D. D., and LL. D., as fate may decree and the fee provide. For we read that "those who are not college graduates may become candidates for degrees whenever the success and common fame in their line of professional work seem to justify the honor to be conferred." Nor are the classics discriminated against; for it is expressly stated the "Odessy," Bookkeeping, New Testament, and "Com. Course" are among the subjects for which credit will be given, especially if they have been taught for fair salaries.

On the whole, we like Mount Hope College, Rogers, Ohio. Its faculty of fourteen begins in mental and moral philosophy and ends in telegraphy, thus insuring a training

that reaches from the cortex to the flexor and pronator muscles. The post-graduate examiners, on whom grave responsibility rests, are drawn not only from Rogers itself, but from the famous educational capitals of La Rue, O.; West Jefferson, O.; New London, O.; Mayville, N. Y.; Howell, Mich., and Altoona, Pa. A degree from this institution will be a priceless possession.

Notes and News

The eighth issue of the indispensable *Minerva*, year-book of the universities of the world, has, as frontispiece, an etched portrait of F. F. Martens, professor of international law in the University of St. Petersburg. Paris claims an attendance of 12,047 and leads all other universities in size. Berlin follows with 10,306, of whom 5606 are matriculated students. Harvard is credited with 3674, and comes ninth on the list. Oxford has 3408, Leipzig 3277, and Edinburgh 2850. *Minerva* grows increasingly useful and it is hard to understand how any college or university library or any well-equipped editorial office can do without it.

The *Harvard graduates' magazine*, which always takes great pains with its statistics, publishes a table which shows the astonishing growth of Harvard during the last decade. In ten years the number of enrolled students has risen from 1899 to 3879, or, including the Summer School and Radcliffe College (both of which should be included), from 2380 to 5437. The comparisons with the other large universities—Johns Hopkins, Wisconsin, Chicago, Columbia, Yale, Michigan, and Pennsylvania—are interesting, but somewhat misleading because of the different basis on which the several returns are made up. We venture to suggest to Professor Hart, who prepares the tables, that a separate item for extension students, one for non-resident graduate students, and a warning not to report the same student under more than one head, would bring out some facts from his informants at other universities that the figures, as at present furnished him, conceal.

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The graduate schools rank in this order: Chicago 370, Harvard 319, Columbia 313, Yale 270, Johns Hopkins 192, Pennsylvania 151, Wisconsin 87, Michigan 73.

The law schools rank: Michigan 720, Harvard 543, Columbia 341, Pennsylvania 312, Yale 195.

The medical schools rank: Pennsylvania 793, Columbia 695, Harvard 546, Michigan 408, Johns Hopkins 201, Yale 112.

The totals for undergraduates in arts and sciences are: Harvard 2260, Yale 1755, Michigan 1429, Wisconsin 1097, Columbia 802, Chicago 783, Pennsylvania 653, Johns Hopkins 187.

The following table brings out at a glance the relative numerical rank of the universities compared:

University	*Undergraduates in arts and sciences*	*Graduate schools*	*Law*	*Medicine*	*Totals*
Chicago . . .	6	1	—	—	6
Columbia . . .	5	3	3	2	5
Harvard . . .	1	2	2	3	1
Johns Hopkins . .	8	5	—	5	8
Michigan. . . .	3	8	1	4	3
Pennsylvania . .	7	6	4	1	2
Wisconsin . . .	4	7	—	—	7
Yale	2	4	5	6	4

The appointment by Commissioner General Peck of Deputy Superintendent Howard J. Rogers of New York to be director of the department of education and social economy at the Paris Exposition in 1900 insures energy, intelligence, and wisdom in the selection of an educational exhibit to represent the United States. As the space allotted is very limited, this exhibit must be selective, not collective; and all teachers and educational institutions will certainly be glad to co-operate with Mr. Rogers in making the most creditable showing possible on behalf of the whole country.